DOCUMENT RESUME

ED 080 864 CE 000 077

AUTHOR	Petersen, Dale F.
TITLE	Iowa Health Occupations Education Followup Study.
INSTITUTION	Iowa Univ., Iowa City. Div. of Health Affairs.
SPONS AGENCY	Iowa State Dept. of Public Instruction, Des Moines. Div. of Career Education.
PUB DATE	31 Jul 71
NOTE	151p.
EDRS PRICE	MF-$0.65 HC-$6.58
DESCRIPTORS	Career Education; Employment Experience; Graduate Surveys; Health Occupations; *Health Occupations Education; *Health Personnel; Job Satisfaction; Nurses; Occupational Surveys; Paramedical Occupations
IDENTIFIERS	*Iowa

ABSTRACT

Graduates of health occupations education (HOE) programs in Iowa which were partially supported by State and/or Federal funds were studied. The purpose was to assemble an information base useful in planning new programs or expanding existing ones. Coordinators of 47 HOE programs were able to locate 3,207 persons in 1969. A questionnaire was used to gather personal, educational, and employment information in some depth. Projections were validated by random sample and telephone interview of nonresidents. The graduates were also asked to evaluate their satisfaction with their training and employment potential. Seven recommendations are made. In a separate section, the possibility of overproduction of practical nurses in Iowa is found to be unlikely. Appendixes describe the HOE programs and present samples of the forms used in the study. (MS)

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Iowa Health Occupations Education Follow-up Study

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IOWA HEALTH OCCUPATIONS EDUCATION

FOLLOW-UP STUDY

A Follow-Up of the Graduates of Health Occupations Education Programs in Iowa Which are Partially Supported by State and/or Federal Vocational-Technical Education Funds

Dale F. Petersen

Research reported herein was performed pursuant to a contract with the Career Education Division of the Iowa Department of Public Instruction. Contractors undertaking such projects under governmental sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated herein do not, therefore, necessarily represent official position or policy of the Iowa Department of Public Instruction.

Program in Health Occupations Education
Division of Health Affairs
The University of Iowa

in cooperation with

Career Education Division
Iowa Department of Public Instruction

Partially funded under the provisions of
The Vocational Education Amendments of 1968

July 31, 1971

ACKNOWLEDGMENTS

Cooperation of many individuals, groups, agencies, and educational institutions was basic to the success of this research project. The project director wishes to express sincere appreciation to all who have given of their time and efforts to help make this follow-up study a success.

Specifically, I would like to thank the many school administrators, student personnel departments and faculty of the participating H.O.E. programs for their assistance in identifying and locating the graduates. Also, I would like to thank Mrs. Lynne Illes, Executive Director of the Iowa Board of Nursing, and the Board, for their help in finding useable addresses for many of the nursing graduates. My appreciation also goes to Miss Elizabeth E. Kerr, Director, and Dr. Lewis D. Holloway, Mr. Richard E. Gamel and Mrs. Milferd Rosendahl, professional staff members of the Program in Health Occupations Education, Division of Health Affairs, The University of Iowa, for their encouragement and assistance at intervals throughout the duration of the project.

I would like to give special recognition to Mr. Jerrold Edwards, and Mrs. Catherine Kaufman who served as research assistants at intervals throughout the project. Their help was invaluable and graciously appreciated.

Special appreciation also goes again to Mrs. Kaufman, Mrs. Virginia Paul and Mrs. Flossie Windley for their help in preparing and typing the final report.

Many thanks to all of you and to those whom I may have overlooked mentioning here.

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CHAPTER I

BACKGROUND AND INTRODUCTION

THE HEALTH CARE INDUSTRY

The health care industry, one of the most dynamic and rapidly growing in our nation, is experiencing dramatic change. On one hand, rapid expansion in scientific and medical knowledge is stimulating the involvement of new types of health workers in the delivery of health care. On the other hand, charges of inequitable distribution of health services, population growth, expanded use of third party financing of health care, longer life expectancy, and many other similar factors demand an increasing number of better trained health personnel.

The dynamics of growth and change are implicit in the above factors. At the turn of the century, the "health care team" consisted primarily of the doctor and his nurse, and there were 123,000 and 121,000 respectively of these two categories of health workers. At the same time, there were some 30,000 dentists. Few "supportive health workers," other than nurses, existed at that time. In all, a total of only about 350,000 persons were employed in the "health field" in 1900.[1]

This picture has changed dramatically in the intervening years, most dramatically in the past 15-20. In 1968 there were approximately 3.7 million people employed in the health care industry. While this field experienced phenomenal growth during this period of time, the most dramatic

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[1]U. S. Department of Health, Education and Welfare, Public Health Service, Health Manpower Source Book, Section 21, Allied Health Manpower, 1950-80. (Washington, D.C.: U. S. Government Printing Office, PHS Publication No. 263, 1970), page 3.

change was in the occupational composition of the field. In 1969 there were 375 health occupations listed in the Health Resources Statistics Handbook. Among these were 125 primary occupational titles and 250 alternate or secondary titles.[2] Even then, some health occupations are not reflected in this listing. Many job categories and occupational titles are assigned on a localized basis, and in addition, specialization and reclassification of functions and responsibilities are continually creating new occupational titles in this field at a tremendously rapid rate.

With regard to this expanded occupational structure, it is interesting to note that the most impressive growth has been among those occupations other than the physician, dentist and others at their same level of preparation which Greenfield categorizes as "Autonomous Health Practitioners."[3] In 1900, physicians and dentists comprised approximately 45% of the total of health manpower, while in 1967, they made up less than 12% of all health manpower. Health workers other than "autonomous practitioners," including all classifications of nurses, grew in proportion of health manpower from 55% in 1900 to more than 88% in 1967.[4] Certain groups may not agree with these classifications. They serve, however, to show the important growth trend that is taking place in the supportive level health occupations.

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[2] U. S. Department of Health, Education and Welfare, Public Health Service, Health Resources Statistics (Washington, D.C.: U.S. Government Printing Office, PHS Publication No. 1509, 1969), p. 273.

[3] Harry I. Greenfield and Carol A. Brown, Allied Health Manpower: Trends and Prospects (New York: Columbia University Press, 1969), page 18.

[4] Public Health Service, Health Manpower Source Book, Section 21, Loc. Cit.

TYPES OF HEALTH PERSONNEL

Within this greatly expanded health field, the various types of workers tend to meld into five rather distinct groups:

(1) The autonomous professional practitioner. In this group are the physician, the dentist and those who carry the burden of the legal responsibility for patient care.

(2) The professional practitioner. In this group are health workers such as the medical technologist, the physical therapist, the professional nurse, the medical social worker and others commonly prepared at the baccalaureate and masters degree level.

(3) The technician. This health worker is usually prepared in educational programs at less than baccalaureate degree level, most often in a two-year post-high school program. In part, this group includes the dental laboratory technician, the environmental technician, the inhalation therapy technician, and by definition of the profession, the diploma and associate degree registered nurses.

(4) The assistant. Most assistants, such as the medical office assistant, licensed practical nurse and the dental assistant are prepared in one year preparatory programs, usually post-high school. Some of these health workers, however, are prepared in secondary schools and on the job.

(5) The aide. Preparation for most of these workers has been on-the-job. However, short-term career education programs are becoming increasingly popular for preparing this type of health worker. Included in the aide category are the nurse aide-orderly, physical therapy aide, dietary aide and other similar health workers.

Various health fields attach different meanings to specific occupational titles. There appears, however, to be a great deal of similarity in categories of titles and preparation among the many fields. Most identify these five categories as appropriate to their thinking.

For the most part, when considered by level of responsibility or autonomy, the five levels tend to re-group into three: the autonomous health practitioner, the professional health practitioner, and supportive health personnel. Included in the latter category are the technician, the assistant and the aide. Autonomous practitioners are generally prepared in medical, dental and similar colleges located in public and private universities and in some major teaching hospitals. The professional level worker is increasingly being prepared at colleges and universities in health specialty departments and "allied health professions" schools. Supportive health workers; including the technician, the assistant, and the aide; are prepared in many different types of programs located in a variety of administrative settings. These range from on-the-job training in a health agency to a less-than-baccalaureate level program in a college or university. Most formal educational programs for this category of health worker range from a three- or four-week short-term program to a two-year associate degree program administered by a community college or area vocational-technical institute.

While the term "health occupations education" can be considered generic, popular usage in recent years tends to identify it with the latter or supportive personnel category. It is beyond the scope of this project to debate the merits involved, or to determine the proper usage of the term. However, because of familiarity and current usage, the term "health occupations

education," as used in this report will describe the supportive level health personnel category (technician, assistant, aide). Health occupations education will be abbreviated by the capital letters HOE.

SCOPE OF HEALTH OCCUPATIONS EDUCATION NATIONALLY

The rapidly expanding field of vocational-technical education, especially in the community college setting, is the largest single producer of prepared health workers whose preparation is less than a baccalaureate degree.[5] Recent figures showing the exact number of HOE programs which prepare supportive health personnel are not available. However, figures for the fiscal year ending June 30, 1969 from the Analysis and Reporting Section of the Bureau of Vocational-Technical Education, U.S. Office of Education, indicate there were more than 176,000 students enrolled in HOE programs conducted by some 2,000 schools across the nation. These figures reflect only those programs supported under the provisions of the Vocational Education Act of 1963, as amended in 1968. Among the 176,000 were approximately 30,000 students enrolled in secondary school HOE programs. The remaining students, which comprise a plurality of approximately 83% were enrolled in post-secondary level educational programs to prepare for employment in the health field. About 7,000 faculty members were employed in 1969 to teach in HOE programs supported in part by vocational education funds.

Under the provisions of this Act, according to the preliminary report of the Bureau of Vocational-Technical Education, U.S. Office of Education, a total of $13,106,000 was provided in the form of basic grants

[5]Helen K. Powers, "Some Facts About Vocational Education," paper published in National Conference for Health Occupations Education, (Champaign, Illinois: University of Illinois, June 1970), page D-22.

to states for the support of HOE programs. This amount reflects only the federal share of program support. Additional support, about double this amount, comes from state aid, student tuitions and local taxes.

The rate of growth in vocational education programming in the health field has been dramatic. Enrollment figures given above the FY 1969 represent approximately 23% growth over FY 1968 and nearly 500% growth over 1957. In addition to an expanding need for prepared health workers, growth in health occupations education is a long range result of the focus brought on the field by the passage of Public Law 911 which is known as the "Health Amendments Act of 1956." This Act, in essence, amended the Vocational Education Act of 1946 by including Title II, "Vocational Education in Practical Nurse Training."[6] Prior to this Act, there were comparatively few vocational-technical programs for the preparation of health workers. Among those that did exist in that period of time, the focus was heavily on practical nurse education. The most rapid growth, both in numbers and types of HOE programs has been since the passage of the 1956 Act.

HEALTH OCCUPATIONS EDUCATION IN IOWA

In Iowa, as well as nationally, practical nursing was the early focus of attention in HOE. Health Occupations Education, as a part of the public education system in this state, has emerged from the demonstration-pilot program in practical nurse education which was administered by the College of Nursing at the University of Iowa. This program was established in 1953, upon the recommendation of a state advisory committee, for the purpose of encouraging other institutions to develop similar programs and to provide a model to assist them in doing so.

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[6] J. Chester Swanson, Development of Federal Legislation for Vocational Education, (Chicago: American Technical Society, 1962), page 95.

From the time this program was established in 1953 until 1956 when the Health Amendments Act was passed, only one more publicly administered practical nurse education program was organized in the state. This program opened its doors to students in 1955 at the Junior College in Clarinda, Iowa. It was after the 1956 Act and its related administrative guidelines were implemented that the noticeable expansion of practical nurse programs began. As can be seen in Table 1.1, page 8, there was a steady growth in the number of practical nurse programs from 1958 when there were three to 1971 when 22 publicly supported programs enrolled students.

It should be mentioned at this point that there were also three privately supported practical nurse programs in Iowa during this period of time. The first, and actually the first program in the state, was administered by St. Joseph's Mercy Hospital in Marshalltown and was organized in 1948. A second program, administered by St. Luke's Methodist Hospital in Cedar Rapids, began operation in 1953. The third private program originated in 1958 under the auspices of St. Anthony's Hospital in Carroll. One of the three, the St. Luke's Methodist Hospital program, continues to be privately operated. The other two have transferred administration of their programs to public educational institutions in their locality.

Table 1.1 also shows that it was not until 1964 that the scope of HOE programming in the state extended beyond practical nursing. In that year, the first program which encompassed a different health occupation was implemented by the Fort Dodge Community College, in Fort Dodge, to prepare medical office assistants for employment in physicians' offices. In the ensuing years, the scope of programming broadened until there were 54 regular preparatory programs one- and two-years in length in eleven

TABLE 1.1

HEALTH OCCUPATIONS EDUCATION IN IOWA

NUMBER OF ONE AND TWO YEAR PREPARATORY PROGRAMS, BY TYPE- FY 1957-71

PRACTICAL NURSING	2	3	4	4	5	5	8	11	11	13	19	19	19	20	23
MEDICAL ASSISTANT									1	1	1	5	5	5	5
MEDICAL LAB. ASSISTANT										1	1	3	4	4	4
DENTAL ASSISTANT												4	6	6	7
DENTAL LAB. TECHNICIAN													1	1	1
ASSOCIATE DEG. IN NURSING												2	2	5	8
OPERATING ROOM TECHNICIAN												1	3	3	3
ENVIRONMENTAL TECHNICIAN													1	1	1
OCCUPATIONAL THERAPY ASSIST.													1	1	1
ORTHOPAEDIC TECHNICIAN													1	1	1
LONG-TERM CARE FACILITIES ADMIN.															1
TOTAL NUMBER	2	3	4	4	5	5	8	11	12	15	21	34	43	47	55
FY(19)	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71

different health occupations. In the fiscal year ending June 30, 1971, 55 such programs were in existence. Table 1.1 delineates the development of HOE programs in the state by program type and year of implementation. For the description and location of each of these programs, please refer to Appendix A.

In addition to the regular one- and two-year preparatory programs, a variety of other types of HOE programs exist in the state on a need determination basis. Among these are a four-week preparatory nurse aide program and a variety of supplemental or continuing education programs designed for currently employed health workers. In most cases, the need for these types of educational offerings is determined locally by the appropriate educational institution and health agency(ies). Because these programs are offered on a need determination basis, and are offered more or less intermittently, they are not included as a part of this follow-up study. Only the regular one- and two-year preparatory programs are included.

ADMINISTRATION OF HOE PROGRAMS IN IOWA

At the State Level

Federal guidelines developed for the administration of the Health Amendments Act of 1956 required that state departments of pbulic instruction provide for a professional nurse consultant to assist in the development of educational programs under that Act. Iowa was unique in the provision it made to meet these requirements. While most states employed professional nurses on their vocational education staffs; the Iowa Department of Public Instruction, with the approval of the U. S. Office of Education, chose to contract with The University of Iowa for these consultative services (as

mentioned earlier, the University had established the demonstration project and at that time was already providing leadership in program development). This arragnement has proven effective for many reasons. For example, having the consultant function for HOE based in close proximity to the health professions colleges and service functions found at the University, provides better opportunity for comprehensive planning in program development.

This cooperative arrangement evolved out of the pilot-demonstration project in practical nurse education administered within the University's College of Nursing. For several years, as long as practical nursing was the focus of HOE program development, the consultant service continued to be provided from within this College. When programs other than practical nursing were introduced the importance of basing the consultant function in a neutral area, not directly allied with any of the specific health colleges, was recognized. Upon this recognition, in 1965, the consultant function was transferred out of the College of Nursing and established as the Program in Health Occupations Education, a new department within what is now known as the Division of Health Affairs. This new Department, since its inauguration and under a continued agreement with the Iowa Department of Public Instruction, has provided consultation, teacher education, research, curriculum and instructional materials development, and other supportive services for HOE in the state.

Through this cooperative arrangement, the University of Iowa and the Iowa Department of Public Instruction have provided leadership to pave the way for sound and continual expansion of quality HOE programs. Each program is administered under the provisions of the State Plan for

Vocational Education and is partially supported with state and federal vocational education funds.

At the Local Level

In the early years, HOE programs in Iowa were generally administered by local secondary school districts. Many such districts organized their "post-secondary" HOE programs as a part of their adult education departments. Other secondary school districts developed their HOE programs as a part of the junior or community college which they administered. While a tremendous need existed for career education at the post-secondary level, there was no organized "over-all" plan for such a system. As these local school districts identified a need for prepared health workers, programs were planned and implemented.

In many cases it was necessary to utilize existing facilities that were available. All types of vacant structures such as bank buildings, supermarkets, commercial buildings, unused school buildings, and other similar structures which could be remodeled into suitable accommodations were used to house newly developed programs. Some institutions, however, were able to plan for space to house their HOE programs as new junior and community college buildings were constructed.

Even with the lack of an organized "over-all" state plan for the administration of post-secondary occupational education in the beginning, these institutions were proud of their contribution to students and to health care in Iowa through the preparation of quality health personnel. These new programs gave these school districts the opportunity to offer their citizenry a much needed program of occupational education.

This lack of over-all organization, and the administration of HOE programs in this state, changed dramatically after 1965, the year in which the Iowa Legislature passed the "Area School" law. This law, known then as Senate File 550, is the basis upon which an entirely new system of post-secondary educational institutions has emerged. The law contained provisions which allowed county school districts, or parts thereof, to merge for the mutual support of an area school offering two years of post-secondary education. These institutions could be organized as comprehensive community colleges or as vocational-technical institutes.

The system of two-year post secondary institutions provided for in this legislation proved to be extremely popular with the Iowa public and evolved rapidly in only a few short years. A total of 15 "area schools" have been organized and approved by the Iowa State Board of Public Instruction. Of the 15, eleven are community colleges which offer a variety of career education programs as well as two years of general education. The remaining four are vocational-technical institutes which primarily offer career education programs.

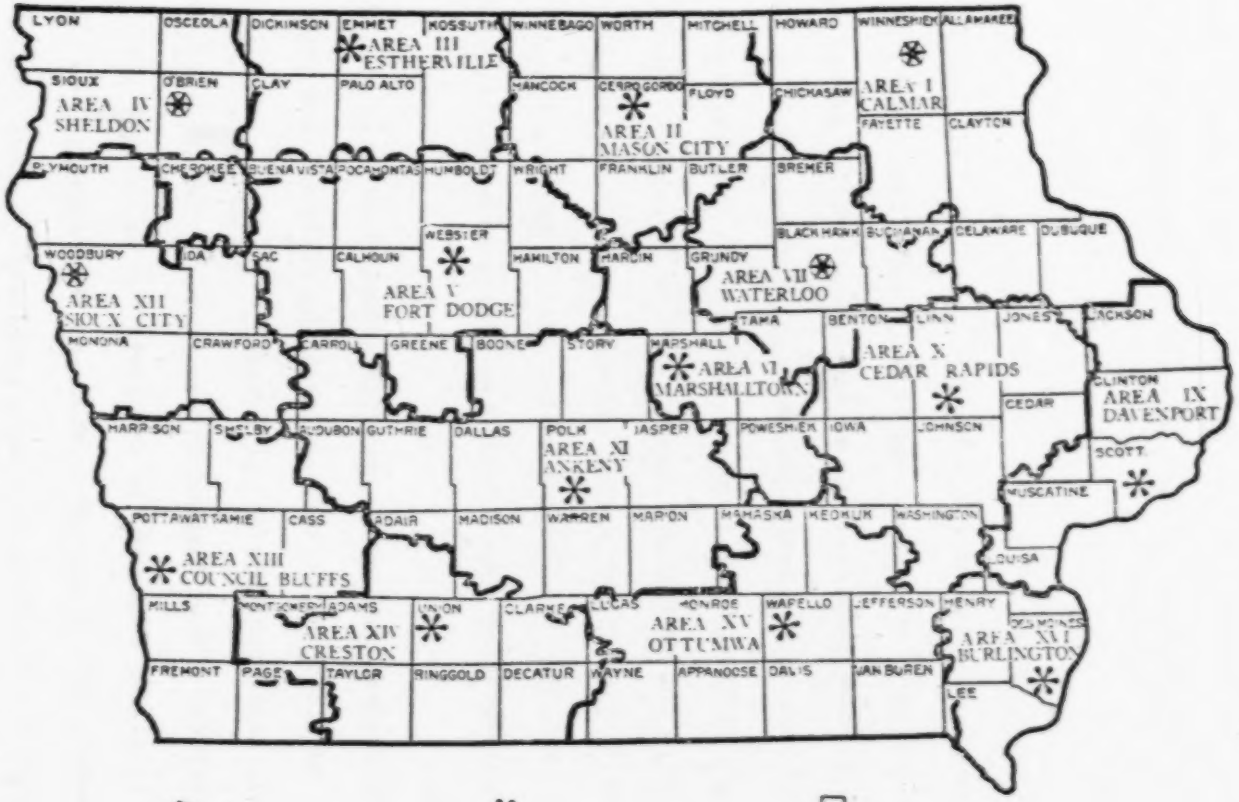
All these new institutions encompass multi-county districts, with some including parts of as many as twelve or more counties. Figure 1, on the following page, shows the boundaries and administrative centers of Iowa's 15 area schools.

As these new area post-secondary institutions emerged, more than half of their multi-county districts included existing junior or community colleges administered by local secondary systems. There were also many existing post-secondary occupational education programs administered by local districts. For the most part, one of the early steps in organization of the

MERGED AREA SCHOOLS AND ADMINISTRATIVE CENTERS FOR

AREA COMMUNITY COLLEGES (ACC) AND AREA VOCATIONAL SCHOOLS (AVS)

July 1, 1970



AREA VOCATIONAL SCHOOLS AREA COMMUNITY COLLEGES UNASSIGNED AREAS

Figure 1

new area schools was to cooperatively plan with local districts for the orderly transfer of all formal post-secondary programs to the new institutions. As a result of this process, all the formally organized one- and two-year HOE programs in the state are now administered by the 15 area schools.

NEED FOR THIS STUDY

Health occupations education, in this state and nationally, has as its central purpose the preparation of well qualified supportive personnel for the health care industry. As an educational field, it has existed since 1918, but has only recently become a significant force in the overall field of career education. Statistics presented in the first part of this chapter confirm the recent and rapid growth in our state. These HOE programs are a part of the total career education program in this country supported in part by public funds appropriated under federal and state vocational-technical education acts. Local tax monies also partially support these programs.

The general public and specific groups have asked, and will continue to ask, questions about the results being realized from this investment of local, state and federal tax dollars. Examples of questions asked many times include: "What happens to the graduates of such programs? Do they work? If so, do they work in the field for which they were prepared? Are they unemployed? If so, why? What are they earning? Do they remain in the occupation for which they were prepared? Do they remain in Iowa? Answers to these types of questions have not been readily available.

To date, there has been no comprehensive state-wide follow-up study of the graduates of Iowa's health occupations education programs on which to base sound judgments leading to curriculum change. Graduates' attitudes, evaluation, and suggestions, as well as their occupational characteristics, can be extremely useful to administrators and faculty of health occupations education programs in implementing curriculum improvement. Placement data, combined with the employment characteristics of graduates can also be useful in planning for the development of new programs and expansion of existing ones. Reasons for unemployment among the graduates, if it exists, is an important factor in program evaluation.

This follow-up study was designed to provide a more comprehensive understanding of the field of health occupations education in Iowa. It was conceived as a "state-of-the-art" study, developing if you will, a profile of the total HOE program in the state. Its purpose was to assemble an information base useful to a variety of groups and individuals in planning new programs or evaluating and expanding existing ones. Evaluation of individual programs must take into account many differential factors which preclude the value of a single, massive evaluative study.

It is hoped that the information contained in this report will be useful to HOE program faculty, school administrators, state education and health agencies, employers of supportive health personnel, and the public and its legislative spokesmen.

CHAPTER 2

METHOD OF STUDY

IDENTIFICATION OF GRADUATES

Most basic to the conduct of this study was the identification of the graduates of Iowa's health occupations education programs which have used federal funds. This in itself posed a significant potential problem in that, according to the official annual reports of the HOE section of the Iowa Department of Public Instruction, federal funds were first utilized by the Clarinda and University of Iowa programs in 1956. This required that graduates from as many as 13 years back would have to be identified and a usable mailing address obtained for as many as possible.

Recognizing the possibility that records from some of the earlier classes may not be complete, and that changes in personnel may compound this problem, it was decided that the best available source of this information was the coordinators of the 47 HOE programs which existed in 1969. One hundred per cent cooperation of all institutions in Iowa having HOE programs was obtained through correspondence with the appropriate institutional administrators. In each case it was pledged by the school to help identify their graduates and provide other appropriate information.

A printed form was designed on which the graduates, by graduating class, could be listed with their last known mailing address and, if available, their telephone number (Appendix B). A supply of these

forms was sent to the coordinator of each program for use in identifying their graduates for the study. In many schools, the HOE program coordinator worked closely with the student personnel department in obtaining the addresses of graduates. The use of the prepared form, designed by the project staff, facilitated handling of the addresses and transforming them into usable mailing labels.

The success of the coordinators in finding their graduates was extremely gratifying. Most, through current correspondence or telephone calls, were able to establish a rather current mailing list of graduates. Once these had been obtained, and returned to the project staff, it was then necessary to prepare the graduate lists for processing. It had been planned that all address data be transferred to regular 80 column data processing cards.

To achieve this, the lists were edited for clarity and an identification number was assigned each graduate. The numbers were assigned in ascending order beginning with the first person listed in the first graduating class of each program. It was the intention of the project staff to provide as much feedback of data to the programs as financially and time-wise possible. Therefore, a coding system was designed which would allow classification of data by program type and school number. The latter code was designed to identify each individual program rather than an area school since some area schools have more than one program of a single type within their administrative structure. A good example is the Eastern Iowa Community College (Area IX) at Bettendorf, which has a practical nursing program at their Davenport campus as well as at their Clinton campus.

The program type and school codes were designed such that it was possible to compare data from any single program with data from any or all other programs.

After the address form had been designed a companion data card format (Appendix B) and computer program were also designed which, after the addresses had been edited and key-punched onto regular 80 column data cards, could be used to process the addresses into mailing labels by use of the computer. Each individual address required a single computer card. In all, 3703 graduates for the years 1956 through 1969 were identified by the 47 individual programs. It was possible to establish a usable address for 3611 of the 3703 graduates.

It was known by some program coordinators that a portion of the addresses they could not obtain were for graduates who were deceased, who had moved and left no forwarding address, and in several cases, for graduates who were out of the country accompanying their spouse in the military service. In all, of the 92 graduates for whom addresses were not available, 13 were known to be deceased. It seems fair to assume 13 to be minimal and that a greater number of those for whom addresses could not be established were deceased.

SURVEY INSTRUMENTS

At the same time that graduates and addresses were being identified, the survey instrument was being designed. Several factors were pertinent to the design of the questionnaire. First, there were four different types of data conceived as important to the purposes of this particular follow-up study: (1) basic personal data, (2) educational rxperience data, (3) employment experience data, and (4) program

evaluation data. Second, it was considered important that respondees have an opportunity to express their personal attitudes, concerns, ideas and questions in an open-ended response manner. Third, it was necessary to keep the questionnaire short and concise, so that graduates would complete and return it. This, in light of the scope of the desired outcome, seemed nearly an impossible task. Finally, the questionnaire, because of the number involved, had to lend itself to easy and economical handling. Several questionnaire formats, ranging from machine scored to written response type, were considered and evaluated. After much study, and based on the intended uses of the data, it was decided that a machine scored system would not allow the open-endedness needed to obtain the information desired. The decision was made to use a questionnaire format which could be completed in most cases by check marks, and at the same time, allow short written answers where necessary.

Multiple mailings were planned to increase the rate of return. With this in mind, and because of the large number of graduates being surveyed, it was decided that the questionnaire should be designed in the form of a single sheet 11" x 17" printed on both sides and folded to form a four page 8-1/2" x 11" booklet. This booklet, during the folding process, was further folded so that after a mailing label had been affixed it could easily be inserted in a #10 window envelope.

The cover letter was printed on the front page of the booklet with a space for a mailing label and a block for name and address corrections. The graduates' I.D. number, program type, and school number were coded directly on the mailing label, so they could not become separated from the questionnaire. The questionnaire was divided into four major sections

as follows:

I. Personal Information

II. Educational Experience

III. Employment Experience

IV. Health Occupations Program Evaluation

In addition to these four major sections, two additional response areas were provided.

The potential need for a comprehensive study of the employers of Iowa's health occupation graduates was recognized. Because of this, on a strictly voluntary basis, each graduate was asked to supply the name of his or her employer. These names will be helpful in establishing a large pool of employers names for later use in identifying a sample for such a study.

From prior experience, it was known that many respondees like to express themselves beyond the limitations of a formal questionnaire. For this reason it was decided to provide a single insert sheet on which they could make whatever comments they wished without signing their name. Approximately 28% of the graduates returned written comments. In many cases, these comments helped confirm questionable or missing responses. Many of the comments were in the form of questions; part of which have been answered by project staff.

A copy of the complete questionnaire is provided for your review in Appendix B.

MAILING OF THE QUESTIONNAIRES

At the outset, it was planned to include in the study only those who had graduated from 1956 up through 1968. Since this included a period of 13 years, a return rate of 50% was considered to be as high as could be expected. To achieve the 50% return, three mailings of the questionnaire had been planned. Surprisingly, after only two of the planned three mailings, the anticipated return rate had been comfortably surpassed.

Due to unexpected delays in implementing this study, enough time had elapsed that the 1969 HOE classes had been graduated for nearly a year. After much consideration and careful study, it was decided that the inclusion of the 1969 graduates was by far more valuable to the purposes of the study than increasing the return rate by a few percentage points through a third mailing. This was particularly true since a validation procedure had been initially planned as a part of the study methodology.

After this decision, similar mailing procedures were followed for the 1969 graduates of Iowa's HOE programs. The inclusion of the 1969 graduates improved the study in three ways:

1. It enlarged the total study population.
2. It made the study current.
3. It expanded the scope of the study by the inclusion of three new types of programs that graduated their first classes in 1969. These are the orthopaedic assistant, environmental technician, and occupational therapy programs.

Questionnaires were mailed to all 3611 persons for whom a mailing address had been established. As a result of initial mailings (those graduates through 1968 and later, the 1969 graduates) a total of 361 or 10% of the questionnaires were returned marked "undeliverable." Two procedures were utilized to reduce the size of this undeliverable group.

First, all the "undeliverables" were sorted by program and year of graduation and listed on new copies of the original name and address form. To this was attached a second copy of the same form to provide a space for a new address or a permanent address of a parent, relative or friend. These forms were then returned to each program coordinator in hopes that they could identify more current addresses. The coordinators were extremely helpful and were able to find new addresses for many of the non-deliverable group.

Second, after receiving the new addresses from the coordinators, the project staff separated those for whom new addresses had been obtained and those for whom a new address could not be found. For those with a new address, a new address card was punched to replace the original. Those for whom a new address could not be obtained were then again sorted by program type. More than 90% of this group were graduates of practical and associate degree nursing programs. Since both practical and registered nurses must be licensed, the assistance of the State Board of Nursing was sought. The executive staff of the Board was very helpful in finding current addresses. The annual license renewal procedure provided an address which was less than one year old.

Again, these new addresses were punched onto cards and replaced the originals in the address file.

Approximately three weeks after the initial mailings, a second questionnaire was sent to those who had not yet returned a completed one and whose questionnaire had not been returned as "undeliverable." The undeliverable group was mailed a second questionnaire as soon as new addresses were identified.

On the second mailing, a new smaller group of questionnaires were returned as undeliverable. It was decided at this point not to attempt to locate new addresses for the remaining 404 graduates whose questionnaires had been returned as undeliverable.

There were a variety of reasons why addresses for the 496 graduates (92 for whom addresses could not be obtained and 404 "not deliverable") could not be obtained, among them are:

1. the graduate had been deceased;
2. the graduate had possibly moved from the state or country leaving no forwarding address;
3. the graduate, in the case of nursing, had not renewed their license;
4. the graduate had married and the name change had not been recorded on school and other records; and,
5. a variety of other similar reasons.

For the purposes of this study, it was determined that the total population being considered was the actual number of graduates reported by the coordinators, or 3703. Because of an inability to find a way to get a questionnaire to part of the group, 496 in all, the remainder of 3207 were considered to be a sample actually representing 86.1% of the

total population.

Of this sample of 3207 graduates, 2098 returned their questionnaires, amounting to an overall return rate of 65.4%. The remainder of this report will be considered to be based on a sample of 3207 graduates (see Table 2.1).

TABLE 2.1

SUMMARY OF QUESTIONNAIRE RESPONSE

Program Type	# of Grads. Reported by Coordinators	# for whom Address not Available	# of Questionnaires Mailed	# of Questionnaires returned undeliverable	# of Questionnaires Delivered	# of Questionnaires Completed and Returned	Percentages Returned
Pract. Nurse (LPN)*	3122	91	3031	359	2672	1774	66.4
Assoc. Deg. Nse. (ADN)	115		115	13	102	71	69.6
Operat. Rm. Tech. (ORT)	38		38	1	37	20	54.1
Med. Off. Asst. (MOA)	200	1	199	12	187	104	55.6
Med. Lab. Asst. (MLA)	100		100	7	93	57	61.3
Dent. Asst. (DA)	108		108	12	96	56	58.3
Orth. Tech. (OT)	6		6		6	4	66.7
Environ. Tech (ET)	4		4		4	3	75.0
Occup. Ther. Asst. (OTA)	10		10		10	9	90.0
TOTAL	3703	92	3611	404	3207	2098	65.4

*Note: The abbreviations following the program titles in the above table will be used throughout this report.

VALIDATION PROCEDURE

Studies involving the use of a mail questionnaire technique, because they depend on an individual to return the questionnaire, rarely achieve or even approach the goal of 100% response. Because of this fact, and because the population to be studied included graduates from as many as 13 years back, it was planned to compare a group of graduates who did not respond to the questionnaire with those who did in an effort to determine if there were significant reasons why the results of the study should not be projected to the total population. After much thought, it was decided that the best approach in this case was to select a random sample of the non-respondees and obtain as many responses to the questionnaire as feasible through the use of a personal telephone interview technique.

In the eyes of the project staff, there were certain variables contained in the original questionnaire which could reveal major differences between the two groups. It was felt that attitudes toward the H.O.E. program, as well as toward employment experiences, would be prime areas to compare for differences between the respondents and non-respondents. In all, it was decided that the responses of the two groups to eleven different variables would be compared. The eleven variables are:

1. Age
2. Marital Status
3. Relevance of initial employment
4. Level of satisfaction with initial employment

5. Number of jobs since graduation
6. Moved from Iowa
7. Relevance of most current employment
8. Level of satisfaction with most current employment
9. Non-health related employment since graduation
10. Current employment status
11. Level of satisfaction with H.O.E. program

In all, there were 1109 graduates who did not return the original questionnaire. It was decided to select a sample of approximately five percent of these which would amount to 55 graduates. The names to be called were selected at random from the 1109 non-respondents.

A procedure for conducting the interview was established to provide a high degree of uniformity among the individual interviews. The same person made all calls, recording responses to the appropriate questions on a copy of the original questionnaire. In all, 45, or 81.8% of the validation sample were contacted by telephone. Some of the remaining ten had unlisted numbers, some were accompanying their husbands in a foreign country while in the service and some, while their phone rang, were not home on several attempts made to reach them.

After completing the calls, all responses for the 45 were transferred to data cards and submitted to the same frequency counting procedure as the original respondees. Tables 2.2 through 2.12, which follow, compare the responses of the respondee group with those of the validation sample.

TABLE 2.2

AGE

	Respondents (N=2083)	Validation Sample (N=42)
	%	%
19 years and under	.6	
20-24	42.8	45.2
25-29	13.7	9.5
30-34	6.1	2.4
35-39	7.6	9.5
40-44	7.3	11.9
45-49	8.0	4.8
50-54	6.4	9.5
55-59	5.1	7.1
60-64	1.8	
65 years and over	.5	
Mdn. Age	26.6	26.5

TABLE 2.3

MARITAL STATUS

	Respondents (N=2082)	Validation Sample (N=42)
	%	%
Single	18.9	23.8
Married	69.5	66.7
Widowed	4.6	2.4
Separated or Divorced	6.8	7.1
Religious Order	.1	

TABLE 2.4

RELEVANCE OF INITIAL EMPLOYMENT

	Respondents (N=2083)	Validation Sample (N=45)
	%	%
Occupation for Which Prepared	96.7	95.6
Related Health Occupation	1.6	2.2
Other	.6	2.2
Never Employed	1.0	

TABLE 2.5

LEVEL OF SATISFACTION WITH INITIAL EMPLOYMENT

	Respondents (N=2053)	Validation Sample (N=45)
Value	%	%
Extremely Satisfied (5)	28.8	26.7
Quite Satisfied (4)	36.8	44.4
Satisfied (3)	25.7	20.0
Dissatisfied (2)	6.6	2.2
Very Dissatisfied (1)	2.0	6.7
$\bar{X}$ Satisfaction Level (Theoretical Mean = 3)	3.8	3.8

TABLE 2.6

NUMBER OF JOBS SINCE GRADUATION

	Respondents (N=2031)	Validation Sample (N=44)
	%	%
One	51.5	50.0
Two	29.6	34.1
Three	12.2	4.5
Four	3.5	6.8
Five	1.3	4.5
Six	.6	
Seven	.1	
Eight	.1	
Never Employed	1.1	

TABLE 2.7

MOVED AWAY FROM IOWA

	Respondents (N=2066)	Validation Sample (N=45)
	%	%
Yes	13.4	4.6
No	86.6	95.4

TABLE 2.8

RELEVANCE OF MOST CURRENT EMPLOYMENT

	Respondents (N=2055)	Validation Sample (N=43)
	%	%
Occupation for Which Prepared	45.4	44.2
Related Health Occupation	2.3	2.3
Other	1.5	4.7
Only One Job	51.9	48.8

TABLE 2.9

LEVEL OF SATISFACTION WITH CURRENT EMPLOYMENT

	Respondents (N=934)	Validation Sample (N=18)
Value	%	%
Extremely Satisfied (5)	33.4	38.9
Quite Satisfied (4)	37.8	44.4
Satisfied (3)	22.9	11.1
Dissatisfied (2)	4.7	5.6
Very Dissatisfied (1)	1.2	
$\bar{X}$ Satisfaction Level (Theoretical Mean=3)	4.0	4.2

TABLE 2.10

NON-HEALTH WORK EXPERIENCE

	Respondents (N=2037)	Validation Sample (N=32)
	%	%
Yes	3.8	9.4
No	96.2	90.6

TABLE 2.11

CURRENT EMPLOYMENT STATUS

	Respondents (N=2037)	Validation Sample (N=45)
	%	%
Employed	77.9	93.3
Not Employed	22.1	6.7

TABLE 2.12

LEVEL OF SATISFACTION WITH HOE PROGRAM

	Respondents (N=2026	Validation Sample (N=45)
Value	%	%
Extremely Satisfied (5)	29.6	44.4
Quite Satisfied (4)	44.3	40.0
Satisfied (3)	23.5	13.3
Dissatisfied (2)	2.2	2.2
Very Dissatisfied (1)	.4	
$\bar{X}$ Satisfaction Level (Theoretical Mean=3)	4.0	4.3

The purpose of the validation sample was to determine if the non-respondent group differed enough from the respondent group to preclude the projection of the findings of the study to the total population. It was recognized that even on two small samples of the respondent group there would be minor, or in some cases even major, differences in their responses. For this reason, only major differences and trends can be considered meaningful.

As can be seen from a close review of Tables 2.2 through 2.12, there is a great deal of similarity between the respondent and non-respondent groups. For the most part, the age and marital status of the two groups differs very little. The validation sample of non-respondents appears to have a few more younger and single members than the respondent group. This difference appears not to represent a major difference or trend.

With respect to employment, both groups again show much similarity with only two differences which deserve mention here. First, a slightly higher percent of the non-respondents have had non-health employment experience since graduation. Second, a higher percentage of the non-respondent group were currently employed. A third difference which can be noted is the higher percentage of the non-respondent group which has remained in Iowa.

Since the validation procedure was intended to identify major differences which might exist between the two groups, and percentage comparisons of the eleven variables were highly similar, it appeared that further statistical procedures were not necessary. For the purposes of this study, it seems sufficient to bear two factors in mind when reading this report:

1. The data regarding current employment status is probably under-representative of the actual employment status among the entire population of graduates and, for all practical purposes, can be considered minimal with respect to those who are currently employed.
2. The data regarding those graduates who have remained in the state is also probably under-representative of the actual situation which exists in the entire population of graduates, and also, for all practical purposes can be considered minimal with respect to the number of graduates who have remained in Iowa.

To satisfy the curiosity of the project staff, and to help determine a reason why some graduates did not return the questionnaire, each member of the validation sample was asked at the end of the interview if there was a particular reason why they did not return the questionnaire. Approximately 75% indicated they just did not take the time. Others misplaced it or simply forgot about it. No one indicated negative reasons why the questionnaire was not returned.

There seems to be no characteristic of the validation sample which is sufficiently different from the respondee group to preclude the projection of the findings of this study to its intended population; the graduates of Iowa's HOE programs. The reader, however, is reminded to bear in mind the two qualifications mentioned above as he reads this report.

CHAPTER 3

AN OVERVIEW OF THE PERSONAL CHARACTERISTICS OF IOWA'S HOE GRADUATES

Questions regarding certain personal characteristics possessed by the graduates of Iowa's HOE programs were included in the questionnaire for two purposes: (1) to provide an overview of their age, sex, marital status, and number of children; and, (2) for use in making comparisons with other data such as employment status. Chapter 3 contains the overview of personal characteristics determined by the study.

AGE

As of 1970, graduates ranged in age from 19 to 75 years, with a median age of 26.6 years and a mean of 32.3 years. This difference in median and mean is the result of a concentration of graduates in the younger age categories. Approximately 43% of all graduates since 1956 are 24 years of age or younger with 57.3% being 29 years of age or less. The age distribution of all graduates for each type of program is shown in Table 3.1 on the next page.

Comparison of age in 1970 with program type and year of graduation reveals a definite trend in practical nurse program enrollments. The 1970 median age of those who graduated in 1956 was 62.5 years. Subtracting the difference between 1970 and 1956, or 14 years, results in a median age at graduation for this group of about 49 years. The group that graduated in 1969 had a median age of 25.1 years; a difference of 23.9 years. In the early years, practical nurses were stereotyped as middle aged, and practical nurse programs attracted a large proportion of women who were

middle aged and older. This may have been true in the past, but the situation has changed steadily until many more young people just out of high school are entering this field. This same trend has been experienced, to a lesser degree, in the medical office assistant and associate degree nursing programs as well. Table 3.2 on the next page, shows the median and mean ages of the graduates in 1970, by year of graduation for each type of program.

TABLE 3.1

AGE OF GRADUATES IN 1970

N=	LPN (1771)	ADN (71)	ORT (20)	MOA (103)	MLA (57)	DA (56)	OT (4)	ET (3)	OTA (9)	ALL GRADS (N)
	%	%	%	%	%	%	%	%	%	%
19 & under	.2		5.0	3.9	3.5	3.6				.6 (13)
20 - 24	36.9	56.3	70.0	79.6	84.2	92.9	25.0	66.7	44.4	42.9 (897)
25 - 29	14.7	21.1	5.0	2.9	5.3	1.8	750.0	333.0	11.1	13.8 (289)
30 - 34	6.6	7.0	10.0	1.9	1.8				11.1	6.1 (128)
35 - 39	8.3	8.5		3.9		1.8				7.6 (158)
40 - 44	8.2	4.2	5.0	1.0						7.2 (151)
45 - 49	8.9	2.8	5.0	2.9	5.3				11.1	8.0 (167)
50 - 54	7.3			2.9					22.2	6.4 (135)
55 - 59	6.0			1.0						5.1 (107)
60 - 64	2.1									1.8 (38)
65 & over	.6									.5 (11)
Mdn. Age	29.4	24.4	23.2	22.9	22.8	22.5	25.0	20.5	28.5	26.6(2094)
$\bar{X}$ Age	34.4	27.1	25.8	25.4	24.4	22.7	27.0	22.3	32.6	32.3

TABLE 3.2

MEAN AND MEDIAN AGES OF ALL GRADUATES
BY PROGRAM TYPE AND YEAR OF GRADUATION

	LPN		ADN		ORT		MOA		MLA		DA		OT		ET		OTA	
	$\bar{X}$	Mdn	$\bar{X}$	Mdn	$\bar{X}$	Mdn	$\bar{X}$	Mdn	$\bar{X}$	Mdn	$\bar{X}$	Mdn	$\bar{X}$	Mdn	$\bar{X}$	Mdn	$\bar{X}$	Mdn
1956	62.5	62.5																
1957	42.5	40.0																
1958	54.7	56.5																
1959	49.2	51.9																
1960	45.6	46.9																
1961	44.4	47.5																
1962	39.8	36.3																
1963	39.1	37.9																
1964	38.4	32.1																
1965	36.7	28.9	30.6	28.4			36.7	35.0										
1966	32.7	28.6	28.1	27.0			22.5	22.5	22.5	22.5								
1967	34.4	26.2	27.5	26.3			30.0	23.8	23.0	23.1	22.5	22.5						
1968	31.7	24.7	26.3	23.3	25.0	22.9	25.1	23.0	25.3	23.0	22.6	22.6						
1969	31.1	25.1	26.2	23.4	26.3	23.6	23.2	22.4	23.7	22.3	22.4	22.4	27.0	25.0	22.3	20.5	32.6	28.5
All Grads.	34.4	29.4	27.1	24.4	25.8	23.2	25.4	22.9	24.4	22.8	22.7	22.5	27.0	25.0	22.3	20.5	32.6	28.5

SEX

Few men appear to be attracted to HOE programs in Iowa. One could speculate several reasons why this is true. Salary, status and job security may all be factors. Health occupations, at least those for which educational programs exist in our state, remain to be predominantly women's occupations. Only two percent of the respondees were males. This is very much in keeping with enrollment data taken from official records of the Iowa Department of Public Instruction which show that the first male students were enrolled in 1962 and since that time, have comprised slightly less than three percent of all HOE enrollments. The number of male enrollments has shown a very small expansion trend over the years to where in 1970, 3.9% of the enrollment in HOE programs in the state were males. See Table 3.3 on the next page.

MARITAL STATUS

More than 69% of the graduates were currently married at the time of the survey. Another 11.6% had been widowed, separated, or divorced. Nineteen percent of the group were single. Table 3.4 shows the marital status for each type of program.

TABLE 3.4

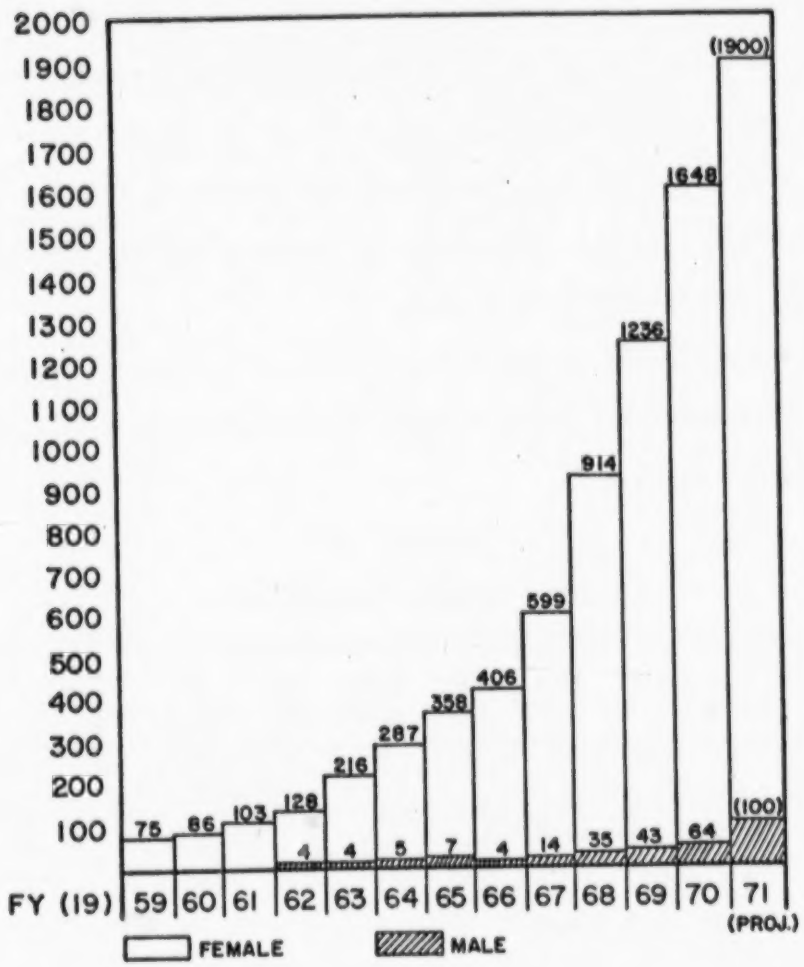
MARITAL STATUS

N=	LPN (1771)	ADN (71)	ORT (20)	MOA (102)	MLA (57)	DA (56)	OT (4)	ET (3)	OTA (9)	ALL GRADS. (2093)
	%	%	%	%	%	%	%	%	%	%
Single	15.4	26.8	55.0	46.1	40.4	42.9	25.0		11.1	19.0 (398)
Married	71.7	69.0	40.0	52.9	56.1	57.1	25.0	100.0	55.6	69.4 (1453)
Widowed	5.4				1.8					4.6 (96)
Sep. or Div.	7.6	4.5	5.0	1.0	1.8		50.0		33.3	7.0 (146)

TABLE 3.3

HEALTH OCCUPATIONS EDUCATION IN IOWA

ONE AND TWO YEAR PREPARATORY PROGRAMS ENROLLMENTS FY 1959-71



CHILDREN

Because the health occupations have generally remained women's occupations, it was felt that family responsibilities and young children in the home might be major factors among those graduates who were unemployed at the time of the survey. For this reason, two different items relating to family size were included in the questionnaire. The first elicited the total number of children and the second sought the number of children under six years of age.

The number of children reported by the graduates ranged from one to more than eight. In all, more than 63% of the graduates had at least one child, over 15% had four or more.

Approximately 29% of all graduates reported that one or more of their children were under six years of age. A few had as many as four under six. See Tables 3.5 and 3.6.

TABLE 3.5

TOTAL NUMBER OF CHILDREN

N=	LPN (1706)	ADN (70)	ORT (20)	MOA (102)	MLA (55)	DA (52)	OT (3)	ET (3)	OTA (8)	ALL GRADS. (2019)
	%	%	%	%	%	%	%	%	%	%
One	19.2	22.9	10.0	12.7	14.5	9.6		33.3	25.0	18.6 (375)
Two	19.3	7.1	5.0	5.9	5.5				12.5	17.1 (345)
Three	13.7	8.6	5.0	6.9	1.8	1.9	33.3		12.5	12.4 (251)
Four	9.4	2.9	5.0	2.9						8.3 (167)
Five	3.9	4.3	5.0							3.5 (70)
Six	2.2									1.8 (37)
Seven	1.0									.8 (17)
Eight or more	1.2	1.4	5.0							1.1 (22)
None	30.2	52.9	65.0	71.6	78.2	88.5	66.7	66.7	50.0	36.4 (735)

TABLE 3.6

NUMBER OF CHILDREN UNDER 6 YEARS

N =	LPN (1647)	ADN (66)	ORT (20)	MOA (100)	MLA (54)	DA (51)	OT (3)	ET (3)	OTA (7)	ALL GRADS
	%	%	%	%	%	%	%	%	%	%
One	20.2	25.8	25.0	13.0	14.8	9.8		33.3	14.3	19.6 (382)
Two	8.3	3.0		1.0	1.9					7.2 (140)
Three	1.8	1.5		1.0			33.3			1.6 (32)
Four	.3									.3 (5)
None	69.5	69.7	75.0	85.0	83.3	90.2	66.7	66.7	85.7	71.4(1392)

PREVIOUS HEALTH EXPERIENCE

As might be expected, more than half the graduates had been associated in some way with the health occupations prior to enrollment in an HOE program. For most, this was through employment in a health occupation which did not require licensure; or, for that matter, formal preparation. For others, this previous health experience was in the form of volunteer work and student clubs.

The greatest proportion of graduates having previous health experience are found in the practical nurse (61.2%), the associate degree nurse (52.9%), and the occupational therapy assistant (66.7%) programs. The remainder of the programs ranged from 25% to 50% of their graduates having prior health experience.

More than 45% of all graduates had been employed as a nurse aide or orderly, which is by far the most common type of previous health experience. This is true to even a greater degree in practical nursing where 50% of the graduates have been nurse aides. Other than this, no distinct discernable pattern exists revealing the type of health experience which

might lead to choosing specific health occupations education programs. As can be seen from Table 3.7, persons with specific types of background went into a variety of HOE programs.

TABLE 3.7

TYPE OF PREVIOUS HEALTH OCCUPATIONS EXPERIENCE BY PROGRAM TYPE

N =	LPN (1760)	ADN (70)	ORT (20)	MOA (102)	MLA (57)	DA (56)	OT (4)	ET (3)	OTA (9)	ALL GRADS (2081)	
	%	%	%	%	%	%	%	%	%	%	
Nse.Aide-Orderly	50.1	37.1	30.0	14.7	5.3	8.9			33.3	45.2	(940)
Vol. Worker	5.6	5.7	15.0	7.8	3.5	5.4			22.2	5.8	(121)
Dietary Serv.	.2	1.4		1.0		1.8				3.0	(7)
Cler.-Secretary	1.3	2.9		2.9	3.5	1.8				1.5	(31)
Home-Health-Child	.8								11.1	.7	(15)
Nsg.Home Operator	1.0									.9	(18)
Stud.-Other Prog.	.3	1.4								.3	(6)
Oper. Room Tech.	.3	1.4	5.0							.3	(7)
Med. Assist.	.1									.1	(2)
EKG Technician	.05									.05	(1)
Dental Assist.	.5		5.0		1.8	5.4				.7	(14)
X-ray Tech.	.2									.1	(3)
Med. Lab. Aide	.05	2.9			7.0			33.3		.4	(8)
O.B. Tech.	.05									.05	(1)
Phys.Therapy Aide	.2									.1	(3)
Blood Bank	.05									.05	(1)
Mil. Corpsman	.1						25.0			.1	(3)
Orthoped. Asst.							25.0			.05	(1)
None	38.8	47.1	45.0	73.5	78.9	76.8	50.0	67.7	33.3	43.2	(899)

CHAPTER 4

EMPLOYMENT CHARACTERISTICS OF THE GRADUATES

One purpose of this follow-up study was to determine basic employment habits and successes of the graduates of Iowa's HOE programs. These programs, have as their central purpose the preparation of well qualified persons for employment in the health care industry. Their success, in part, can be measured by the success their students have in obtaining and retaining employment. Information of this nature is extremely valuable for several purposes. First, it can be valuable to program faculties in program evaluation. Second, it is valuable to both the preparer and the user of health personnel in attempting to assess supply-demand factors in the health occupations. Third, it is extremely valuable to educational policy makers who find themselves faced with making important decisions regarding educational program and budgeting priorities. And finally, this information should be made available to the public, who in fact support our educational programs, so that they may be better informed of what their tax dollars are producing in terms of prepared health workers.

This study is the first over-all follow-up of Iowa's HOE graduates since the first program began in 1953. Therefore, it was determined that an attempt should be made to gather longitudinal employment data as well as placement success. Much insight regarding employment trends, etc. can be gained from basically identical information about the graduates' initial employment situation and their current or most current

one. Of primary interest were: the relevance of each job to the graduates' educational program; salary; type of institution in which the employment was secured and as appropriate, the size; the geographic location of the employment in relation to their educational program; their tenure; and, the level of satisfaction with employment experiences. These variables reveal much about the employment patterns of the graduates and success of the program in preparing health practitioners.

It is recognized that a questionnaire survey of graduates provides only a partial picture of the success of the graduates in their employment experiences. A second, and extremely important measure of success is employer satisfaction, or their evaluation of graduate performance in their institution. This type of study requires a more complicated technique than this follow-up and for that reason is envisioned as a separate but important phase of over-all evaluation. These two forms of follow-up are complementary and necessary to provide over-all insight into the success of educational programs.

INITIAL EMPLOYMENT AFTER GRADUATION

Relevance of First Employment

A very high percentage of the graduates obtained their initial employment after graduation in the occupation for which they were prepared. This was true for 96.9% of all graduates since 1956. Another 1.6% obtained their first employment in an occupation related to their field of training. Less than one-half per cent were initially employed in a non-health occupation after graduation.

Only one per cent of the graduates have never been employed since graduation. This is such a small percentage of the graduates that it can be considered negligible. A change in family situation, personal health or other similar factor could easily account for this samll group of the graduates which have never been employed. See Table 4.1.

TABLE 4.1

RELEVANCE OF INITIAL EMPLOYMENT
BY PROGRAM TYPE

	(N)	Occupation For Which Prepared	Related Occupation	Non-Health Occupation	Never Employed
		%	%	%	%
LPN	(1771)	97.9	1.0	.2	1.0
ADN	(71)	98.6	1.4		
ORT	(20)	95.0			5.0
MOA	(103)	85.4	11.7	1.9	1.0
MLA	(57)	96.5	1.8		1.8
DA	(56)	91.1	3.6	5.4	
OT	(4)	100.0			
ET	(3)	33.3	33.3		33.3
OTA	(9)	44.4	11.1	44.4	
All Grads.	(2094)	96.7	1.6	.6	1.0

The situation with regard to initial employment varies somewhat among the various program types. The practical nursing, associate degree nursing, operating room technician and medical laboratory assistant programs all had more than 95% of their graduates employed in the occupations for which they were prepared. The 85% for the medical office assistant graduates is somewhat misleading since the content of the medical assistant program could easily be applied to a variety of other

closely realted health occupations. A review of the MOA graduates working in related health occupations revealed that among this group, one was working as a medical laboratory assistant, five were working as ward secretaries, one as a medical secretary and one as a veterinarian's assistant. These occupations are all very closely related and for all practical purposes, the graduate would apply a significant portion of the knowledge and skills learned in the HOE program attended. In this sense, the 85% would appear to be somewhat under-representative of the percentage of MOA graduates actually employed in the "occupation for which they were prepared."

Of the more established programs, the dental assistant program had the highest level of non-health related initial employment among its graduates, 5.4%. Another 3.6% were working in health related occupations. The data are not conclusive as to what factors may have been at work in this situation. However, it is revealed in the data that slightly over 10% of the dental assistant graduates have entered a college in a non-health field since graduation. While for some, this may simply be a desire to pursue general education in addition to their dental assistant preparation, it may also indicate that a portion of the graduates were dissatisfied with their occupational choice, the program they attended or the employment opportunities that existed.

Because of the newness of the orthopaedic technician, environmental technician and occupational therapy assistant programs, only one class had been graduated from each prior to the survey. While the number of graduates from these programs was small, they <u>were</u> included in the survey to gain some insight into their initial experience, however limited.

There were six graduates of the environmental technician program in 1969. Each was sent a questionnaire, with four or 75% returning them. All four of the respondees were working as orthopaedic technicians in their initial employment after graduation.

The environmental program graduated only four students in the first class. Three or 75% returned their questionnaires. Placement was not as good at least at the time the survey was conducted, in this program. Of the three respondees, only one had obtained employment in the environmental field. One was not able to find employment in his immediate area and the third, had enrolled in a university for further preparation in the field of Industrial, Traffic and Safety Education.

The occupational therapy assistant program also experienced a lower level of success in placement of its graduates. Of the 10 who graduated in 1969,nine or 90% returned their questionnaires. As can be seen in Table 4.1, only four or 44.4%, were placed as occupational therapy assistants at the time of the survey. One person obtained initial employment in a social services position which she felt closely related to her training. Four of the respondees had taken positions outside the health field. These included the following: one telephone operator; one teacher's associate; and two sales clerks, one each in jewelry and women's apparel. Concern was expressed on the part of some of the graduates who were not able to find employment as OTA's for the lack of recognition of the assistant role shown by employers.

Of all those entering employment after graduation, 93.2% entered full-time positions. By program type, this figure ranged from 92.2% to 100%. Only 6.8% of those entering employment entered on a part-time

basis. This latter figure was somewhat higher (between 7-8%) for practical nursing and associate degree nursing programs than for others. This is probably due to the size, greater staffing needs and staffing patterns inherent in the hospital setting where most of the nursing graduates are employed.

Time Lapse Between Graduation and Employment

In general, HOE graduates spend very little time securing initial employment. Eighty-five per cent of all graduates from 1956 through 1969 entered their initial employment within one month after graduation. The one month figure ranged from the low of 55.5% for the occupational therapy assistants graduates to 100% for the orthopaedic technician and environmental technician programs as shown in Table 4.2.

TABLE 4.2

TIME LAPSE BETWEEN GRADUATION AND INITIAL EMPLOYMENT

	LPN	ADN	ORT	MOA	MLA	DA	OT	ET	OTA	ALL GRADS	
	%	%	%	%	%	%	%	%	%	%	(N)
1 mo. or less	85.8	91.0	76.2	77.2	85.7	90.7	100.0	100.0	55.5	85.1	(1723)
1 - 2 mo.	8.2	1.5	9.5	7.9	3.6	5.6				7.7	(156)
2 - 3 mo.	2.3	3.0	4.8	8.9	3.6					2.7	(54)
3 - 6 mo.	2.1	1.5		3.0	7.1	3.7			11.1	2.3	(46)
6 - 12 mo.	1.2	1.5	9.5	2.0						1.2	(25)
12 - 24 mo.	.5	1.5		1.0					33.3	.7	(14)
2 - 5 yrs.	.3									.3	(5)
5 yrs. or more	.1									.05	(1)
N=	(1710)	(67)	(21)	(101)	(56)	(54)	(4)	(2)	(9)		(2024)

As can be seen from the table, virtually all of the graduates (97.8%) who entered employment did so within a six month period of time. Reasons for delays in entering employment were not elicited in the survey. So few graduates let more than six months lapse between graduation and beginning their initial employment, that it would seem reasonable to assume for the most part, that such factors as pregnancy, marital plans, illness and other similar factors were involved in the few delays in employment.

Where Graduates Were Employed -- Initial Employment

General hospitals have been the primary employers of the graduates, and in this sense, they and the patients they serve have been the primary benefactors of the over-all HOE program in the state. These institutions have employed graduates of the practical nursing, associate degree nursing, medical assisting, medical labaoratory assisting, operating room technician, orthopaedic technician, and occupational therapy assistant programs. The only programs from which general hospitals have not employed graduates are the dental assisting and environmental technician programs; fields for which employment opportunities rarely exist in the general hospital. Over the past 14 years, more than 70% of all HOE graduates obtained their initial employment in general hospitals.

The next most common resource utilized by graduates for employment are nursing homes and other extended care facilities (ECF's). Just under fifteen percent of the graduates obtained their initial employment in this type of institution. Where one might, on first thought, expect

a greater percentage of the graduates to be employed in these institutions, it would be in order to consider the available opportunities there. The primary opportunity would be for graduates of the two nursing programs. Opportunities on a more limited basis exist for rehabilitation personnel. Few ECF's have their own laboratories and hence the opportunity for employment of lab personnel.

With this in mind, looking only at the figures for the two nursing programs in Table 4.3, it can be seen that only 16.3% of these graduates have been employed in nursing homes and ECF's. Percentage-wise more practical nurse (16.5%) than associate degree nurse graduates (10%) were employed in ECF's. Within this group are several persons who previously were proprietors, or spouses of proprietors, of nursing homes who for reasons related to legal approval, chose to complete nurse training for the purpose of meeting approval criteria. Because of this, it is fair to say that even fewer graduates than is revealed in the data, chose to work in nursing homesand ECF's. This is an important finding in that Iowa has a large "senior-citizen" population and the number of ECF beds has increased tremendously during recent years. At this time, the need for more LPNs has continuously been expressed by nursing home managers. Serious consideration should be given to the development of programs to encourage LPN and ADN graduates to seek employment in these institutions.

The remaining 14.6% of the graduates obtained their initial employment in a variety of other settings as shown in Table 4.3.

TABLE 4.3

TYPE OF INSTITUTION -- INITIAL EMPLOYMENT
OF GRADUATES EMPLOYED IN THE OCCUPATION
FOR WHICH THEY WERE PREPARED

N =	LPN	ADN	ORT	MOA	MLA	DA	OT	ET	OTA	ALL GRADS
	%	%	%	%	%	%	%	%	%	%
General Hosp.	74.9	84.3	100.0	17.0	75.0		50.0		20.0	70.6
Spec. Hosp.	5.1	1.4		4.0					20.0	4.7
Nsg.Home-ECF	16.5	10.0		6.0		2.0			20.0	14.8
Pub. Health	.3			1.0				100.0		.5
Private Duty	.9	1.4								1.0
Dent.Off.& Clin.	.1					94.0				1.7
Dent. Lab.					1.8	4.0				.2
Med.Off.& Clin.	1.7	2.9		72.0	17.9		50.0			6.0
Armed Forces					1.8					.05
Sch. Nursing	.4									.3
Comm. Med. Lab.					3.5					.05
Rehab. Center	.1								20.0	.1

Of interest to health occupations education program planners is the size of institutions which employed the graduates, particularly hospitals and nursing homes where the majority were employed. To determine this, a question eliciting the bed size (number of patient beds, excluding bassinettes) was included in the questionnaire. A review of the data showed that those responding to this question, while responses came from all programs but the environmental technician program, were primarily graduates whose initial employment was either in general hospitals, specialized hospitals or in nursing homes and ECF's. See Table 4.4.

TABLE 4.4

TYPE OF INSTITUTION BY SIZE OF INSTITUTION --
INITIAL EMPLOYMENT

N =	0-25	26-49	50-99	100-149	150-199	200-299	300-399	400-499	500 & over	(N)
	%	%	%	%	%	%	%	%	%	
Gen.Hosp.	.8	7.5	11.7	15.1	11.2	17.9	16.2	5.2	14.4	(1332)
Spec.Hosp.		2.7	12.0	8.0	4.0	5.3	10.7	4.0	53.3	(75)
Nsg.Homes & ECFs	16.3	23.1	38.4	10.5	7.5	3.1	.3		.7	(294)
Other	42.8	14.3	14.3				14.3		14.3	(7)
All	3.7 (62)	10.2 (171)	16.7 (279)	14.2 (238)	10.4 (174)	15.0 (251)	13.4 (226)	4.3 (72)	11.9 (235)	100 (1708)

The bed size of general hospitals ranged from less than 25 beds to more than 500; specialized hospitals from 26 beds to more than 500; and, nursing homes, like general hospitals, also ranged from less than 25 to more than 500 beds. The other category includes three persons who indicated they do private duty nursing on a regular basis in specific institutions, three persons employed in state children's homes or schools and one person employed in a rehabilitation center which evidently has provision for infirm care.

Iowa has a large number of small hospitals. According to the Iowa Hospital Association (IHA) approximately 70% of the 142 general acute care hospitals in the state are less than 100 patient beds in size. As shown in Table 4.4, the distribution of the size hospitals in which HOE graduates obtain their initial employment is not proportionate to the distribution of hospital sizes existing in the state. See Table 4.5.

TABLE 4.5

INITIAL EMPLOYMENT HOSPITAL SIZE COMPARED TO THE GENERAL DISTRIBUTION OF HOSPITAL SIZE IN IOWA

Bed Size of General Hospitals	% of Graduates Employed In Each	Hospitals in Iowa By Bed Size
0-50	13.9	47.2
51-100	16.7	22.5
101-200	24.6	13.4
201-400	28.4	13.4
401 & over	16.2	3.5

These data indicate that most graduates are initially employed in larger hospitals. In fact, while 70% of the hospitals in Iowa are less than 100 beds in size, only 30% of the graduates are initially employed in these institutions. Several factors, such as geographic proximity of certain size clinical facilities to the HOE programs, less flexibility in scheduling in smaller hospitals and other similar factors too numerous to mention here, can influence these facts. Even though fewer employment opportunities exist in small institutions, program faculties may need to evaluate their placement statistics to determine if reasons why graduates do not seek employment in the smaller hospitals exist when, in fact, employment opportunities may exist there. If this is the case, it may be wise to plan clinical experiences in smaller institutions to familiarize students with them.

Approximately eleven hospitals, more appropriately considered as long-term care facilities, were not included in the above figures by the IHA, and therefore, are not reflected in Table 4.5. These institutions include for example, the state mental institutions and state children's

schools. Any influence on the statistics in this table caused by their omission should be minor.

Location of Initial Employment

To identify how far students travel for their initial employment, it was decided to use the institution where they received the major portion of their clinical experience as a point of reference. This reference was chosen since it has been commonly accepted by health career educators that many students remain at their primary clinical agency for their initial employment.

Much discussion has been given the mobility of HOE graduates. It has been said that students should be prepared for regional and even national labor market demands, not on a local and state basis. Data resultant from this follow-up study is not sufficient in depth to lend credence to any particular aspect of this type of discussion. However, it does provide insight into the mobility of past graduates between graduation and their employment experiences.

It is obvious that graduates of HOE programs, whatever the reason, have not strayed very far from the institution in which they had the greatest portion of their clinical experience while in training. While Table 4.5 shows that a smaller portion (20.9%) stay in their primary clinical location for initial employment than previously believed to be true, it reveals that almost 72% take employment within 25 miles of that institution. Over 82% take their initial employment within 50 miles. See Table 4.6.

TABLE 4.6

LOCATION OF INITIAL EMPLOYMENT IN RELATION
PRIMARY CLINICAL AGENCY FOR GRADUATES EMPLOYED
IN THE OCCUPATION FOR WHICH PREPARED

N=	LPN (1729)	ADN (70)	ORT (19)	MOA (88)	MLA (55)	DA (50)	ORT (4)	ET (1)	OTA (5)	All Grads.	N (2021)
	%	%	%	%	%	%	%	%	%	%	
Same Cl.Agcy.	20.5	35.7	26.3	23.9	10.9	20.0	25.0			20.9	(422)
Same City	42.9	27.1	36.8	46.6	25.5	48.0				41.9	(846)
Less than 25 mi.	9.3	4.3		8.0	3.6	8.0			25.0	8.7	(176)
25 - 49 mi.	11.0	5.7		9.1	14.5	8.0			50.0	10.7	(216)
50 - 99 mi.	9.4	5.7		5.7	18.2	6.0		100.0		9.3	(188)
100-199 mi.	3.4	7.1	10.5	2.3	12.7	8.0	25.0		25.0	4.0	(81)
200-299 mi.	1.9	5.7	10.5	2.3	3.6					2.1	(43)
300 mi. or more	1.7	8.6	15.8	2.3	10.9	2.0	50.0			2.4	(49)

Table 4.6 is categorized by program type simply to give the reader an opportunity to study the geographic distance between the primary clinical agency and initial employment for each type of program. Because many of the factors influencing employment of graduates vary by program type, comparison between programs would be meaningless.

Table 4.6 deals only with those students who obtained their initial employment in the occupation for which they were prepared. For purposes of comparison, Table 4.7 shows the same distance statistics for three different groups: 1) those who obtained initial employment in the occupation for which they were prepared, 2) those who entered a related occupation, and 3) those who entered a non-health occupation.

It can be seen that a slightly greater tendency exists for those entering related occupations to travel further from their clinical agency. This is true, to even a greater degree, of those entering

non-related occupations.

These data simply point out that HOE graduates take their initial employment relatively close to the location of their primary clinical agency. The data provide no sound reason for this fact. Health occupations educators and educational administrators should however, take this into consideration as they plan for new and expanding programs. See Table 4.7.

TABLE 4.7

LOCATION OF INITIAL EMPLOYMENT IN RELATION TO PRIMARY CLINICAL AGENCY BY RELEVANCE OF THAT EMPLOYMENT

Proximity N=	Occupation For Which Prepared (2021)	Related Occupation (33)	Non-Health Occupation (10)
	%	%	%
Same Clin. Agcy.	20.9	6.1	
Same City	41.9	39.4	40.0
Less than 25 mi.	8.7	24.2	10.0
25 - 49 mi.	10.7	6.1	10.0
100 - 199 mi.	4.0		10.0
200 - 299 mi.	2.1		
300 mi. or more	2.4	9.1	20.0

Beginning Salaries

Salary level expectancy is of primary importance to prospective health occupations students and program faculty and administrators alike. The purpose of this section is not to compare salaries in the health occupations with other occupational fields, but rather to report descriptively the beginning salaries of past graduates.

To provide a reasonable index, salary data were based on the equivalent of the gross monthly check before deductions were taken out.

This approach eliminates such factors as number of dependents and other deductions which would alter "take home" unequally among the respondees, and provides a meaningful measure applicable to all graduates. Monthly salary ranges were provided on the questionnaire as follows: 1) less than $240, 2) $240-319, 3) $320-399, 4) $400-470, 5) $480-559, 6) $560-640, and 7) $640 and over.

Since salary expectancy is important to those who are entering a health occupation, salary figures included in this section are based on those graduates who actually entered initial employment in the field for which they were prepared. Also, because there were so few working part-time and such a variance in the number of hours worked, all data are based on those employed full time. Table 4.8 is provided to show an overview of the salary level of all graduates meeting the above criteria included in the follow-up study. One must bear in mind that these data include graduates from 1956 through 1969, and therefore, do not take into account growth trends in beginning salaries. See Table 4.8.

In Table 4.9 the salary distribution of all HOE graduates employed in the field for which they were prepared is compared to those who were employed in a health related occupation and those who were employed in a non-health related occupation.

As can be seen from this table, there was a tendency toward lower salaries for those graduates employed initially in related and non-health occupations. See Table 4.9

TABLE 4.8

BEGINNING SALARIES OF GRADUATES WHO ARE
EMPLOYED FULL TIME IN THE OCCUPATION
FOR WHICH THEY WERE PREPARED

Beginning Salary N=	LPN (1542)	ADN (63)	ORT (19)	MOA (81)	MLA (54)	DA (51)	ORT (4)	ET (1)	OTA (4)	ALL GRADS (1819)
	%	%	%	%	%	%	%	%	%	(N)
Under $240	15.0	1.6		9.9	1.9	7.8			25.0	13.5 (246)
$240 - 319	37.6	11.1	15.8	58.0	11.1	66.7				37.2 (677)
$320 - 399	33.5	15.9	52.6	30.9	46.3	25.5			50.0	33.1 (602)
$400 - 479	12.7	12.7	31.6	1.2	35.2				25.0	12.7 (231)
$480 - 559	.6	36.5			5.6		75.0	100.0		2.2 (40)
$560 - 639	.1	22.2					25.0			.9 (17)
Self-Employed	.4									.3 (6)
Mdn.Salary	$314	$499	$372	$296	$384	$291	$533	$520	$360	$318

TABLE 4.9

BEGINNING SALARIES OF ALL GRADUATES EMPLOYED
FULL TIME BY RELEVANCE OF INITIAL EMPLOYMENT

N =	Occupation For Which Prepared (1819)	Related Occupation (34)	Non-Related Occupation (11)
	%	%	%
Less than $240	13.5	23.5	36.4
$240 - 319	37.2	29.4	36.4
$320 - 399	33.1	8.8	27.3
$400 - 479	12.7	8.8	
$480 - 559	2.2		
$560 - 639	.9		
$640 or more		2.9	
Self Employed	.3	26.5	
Mdn. Salary	$318	$312	$270

To provide a clearer picture of how beginning salaries have changed over the years, Table 4.10 shows the median salary for each type of program and each year's graduates. It was not until 1967 that the median salary reached the $300 to $400 per month range. The 1969 medians ranged from $299 for dental assistants to $553 for ADN nurses. Only the dental assistant median was below the $300 level. See Table 4.10.

TABLE 4.10

MEDIAN BEGINNING SALARIES OF GRADUATES WORKING FULLTIME IN THE OCCUPATION FOR WHICH THEY WERE PREPARED

Year of Graduation	LPN	ADN	ORT	MOA	MLA	DA	ORT	ET	OTA
1969	$378	$553	$384	$316	$420	$299	$533	$520	$360
1968	355	511	360	284	382	282			
1967	330	440		280	370	280			
1966		320		-240	294				
1965	278	320		253					
1964	267								
1963	252								
1962	268								
1961	243								
1960	269								
1956-59	-240								

Tenure in Initial Employment

The mean length of tenure in the initial employment situation for all graduates is approximately 2.8 years. More than a third of the HOE graduates left their initial employment within one year. Another 56% left their job within five years. Only 6.1% of all graduates remained in their initial employment setting for more than five years.

There are many reasons why this relatively low tenure on initial employment exists. Appropriate data were not collected to determine the reasons, but one could speculate that marriage, pregnancy, husband transferred and illness would be among those given by graduates. As will be noted in later sections of this report, this relatively short tenure seems not to have much relationship to current employment status. See Table 4.11 for the distribution of tenure scores for each type of program.

TABLE 4.11

TENURE IN INITIAL EMPLOYMENT

N=	LPN (1699)	ADN (69)	ORT (19)	MOA (96)	MLA (55)	DA (54)	OT (4)	ET (2)	OTA (7)	ALL GRADS (2005)	
	%	%	%	%	%	%	%	%	%	%	N
Less than 1 year	1.1	2.9	5.3	3.1	5.5	7.4			14.3	1.7	(33)
1-6 mo.	14.7	24.6	5.3	18.8	16.4	11.1		50.0	14.3	15.1	(302)
6-12 mo.	21.3	15.9	15.8	19.8	23.6	18.5			14.3	20.9	(419)
1-2 yrs.	31.9	39.1	73.7	50.0	45.5	59.3	100.0	50.0	57.1	34.8	(697)
2-3 yrs.	14.1	8.7		4.2	7.3	3.7				12.7	(255)
3-5 yrs.	9.8	7.2		3.1	1.8					8.7	(175)
5-7 yrs.	3.7	1.4		1.0						3.2	(65)
7-9 yrs.	1.8									1.5	(30)
9-11 yrs.	1.2									1.0	(20)
11 yrs. and over	.5									.4	(9)

Satisfaction with Initial Employment

An important index of success for a program which prepares people for employment is the level of satisfaction those people feel for the program they complete and the work they obtain after graduation. To provide this index, questions asking the graduate how satisfied they

were with their first job, their current or most recent job, and their educational program were included in the questionnaire. Foils to these questions were arranged on a continuum and weighted as follows: 5 - extremely satisfied, 4 - quite satisfied, 3 - satisfied, 2 - dissatisfied, 1 - very dissatisfied.

The respondee was expected to make a judgment as to how satisfied he was with his initial employment situation. The theoretical mean, or the expected mean value if there were an equal number of responses to all five choices is three (3). The actual mean satisfaction level for all graduates was 3.84. By program type, the mean satisfaction level ranged from the lowest at 3.22 to the highest at 4.50. The distribution of the satisfaction values for the initial job of these graduates is shown in Table 4.12 on the next page.

The data reveal a high level of satisfaction with initial employment. In no instance is the satisfaction mean for a particular program less than three, the theoretical mean. From a proportion standpoint, only 8.6% of all graduates even indicated any dissatisfaction with their initial employment while 28.8% indicated they were "extremely satisfied." Only two percent were "very dissatisfied."

Reasons for dissatisfaction were not sought. However, it seems within reason to assume that among the 8.6% who expressed dissatisfaction, some did so for reasons such as: unsatisfactory hours, weekend work requirements, personality problems, and other similar reasons. It is impossible from the data to speculate the proportion who expressed dissatisfaction because they were unhappy with their career choice, they felt inadequately prepared or other similar causes.

TABLE 4.12

LEVEL OF SATISFACTION WITH INITIAL EMPLOYMENT

	N =	LPN (1726)	RN (71)	ORT (19)	MOA (101)	MLA (56)	DA (54)	ORTH. TECH. (4)	ENV. TECH. (2)	OTA (8)	ALL	GRADS (2041)
		%	%	%	%	%	%	%	%	%	%	
Extremely Satisfied	(5)	27.5	25.4	36.8	40.6	35.7	42.6	25.0	50.0	37.5	28.8	(588)
Quite Satisfied	(4)	37.9	39.4	36.8	24.8	39.3	20.4	50.0	50.0	12.5	36.8	(752)
Satisfied	(3)	26.2	32.4	15.8	20.8	19.6	22.2	25.0		25.0	25.7	(525)
Dissatisfied	(2)	6.5	1.4	10.5	8.9	3.6	13.0			25.0	6.6	(135)
Very Dissatisfied	(1)	1.9	1.4		5.0	1.8	1.9				2.0	(41)
$\bar{X}$ Satisfaction Level		3.85	3.63	4.00	3.87	4.04	3.89	4.00	4.50	3.22	3.84	

Table 4.12 simply shows, for each type of program, how satisfied graduates were with their initial employment. There are several factors which can influence the level of satisfaction graduates show for their employment. Among these are age, type of institution, and relevance of the job. Each of these three factors will be examined briefly.

There was a tendency for those 19 and under and those 55 and older to show a slightly higher level of satisfaction with their first employment than those in the years ranging from 20-54. This difference is very small, however, with the lowest mean satisfaction level (3.77) being expressed by the 25-29 age group. Thc highest mean satisfaction level (4.31) was expressed by those 19 and under. This is a difference of only .54, spread almost evenly on both sides of the value 4, quite satisfied. The small amount of variance in the mean values would seem to indicate that age has little affect on the level of satisfaction with initial employment for HOE graduates in general. See Table 4.13.

Type of institution seems to have a greater affect on satisfaction with initial employment. The mean satisfaction scores on this comparison ranged from 3.50 to 5.00, which is a spread of 1.5. The 3.5 is still well above the theoretical mean of 3. The comparison of satisfaction scores with type of institution is shown in Table 4.14.

TABLE 4.13

SATISFACTION WITH INITIAL EMPLOYMENT
BY AGE OF THE GRADUATES (1970)

Age in Years		Extremely Satisfied	Quite Satisfied	Satisfied	Dissatisfied	Quite Dissatisfied	(N)	Mean Statistical Level
N =		(586)	(748)	(524)	(133)	(41)		
Unknown	%	25.0	50.0	25.0			(4)	4.00
19 and Under	%	46.1	38.5	15.4			(13)	4.31
20 - 24	%	28.2	37.4	25.3	6.7	2.4	(869)	3.82
25 - 29	%	25.3	37.4	28.1	7.5	1.8	(281)	3.77
30 - 34	%	27.4	37.1	29.8	3.2	2.4	(124)	3.84
35 - 39	%	25.0	41.0	23.1	10.3	.6	(156)	3.79
40 - 44	%	27.0	38.5	27.0	4.7	2.7	(148)	3.82
45 - 49	%	34.4	33.1	25.6	5.0	1.9	(160)	3.93
50 - 54	%	30.7	34.7	25.0	9.7		(124)	3.86
55 - 59	%	36.2	34.3	22.9	3.8	2.9	(105)	3.97
60 - 64	%	37.8	32.4	18.9	8.1	2.7	(37)	3.95
65 and Over	%	45.5		54.5			(11)	3.91
All Graduates		28.8	36.8	25.8	6.5	2.0	(2032)	3.84

Type of institution seems to have a greater affect on satisfaction with initial employment. The mean satisfaction scores on this comparison ranged from 3.50 to 5.00, which is a spread of 1.5. The 3.5 is still well above the theoretical mean of 3. The comparison of satisfaction scores with type of institution is shown in Table 4.14.

TABLE 4.14

SATISFACTION WITH INITIAL EMPLOYMENT
BY TYPE OF INSTITUTION

	Extremely Satisfied	Quite Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	(N)	Mean Satisfaction Level
N =	(585)	(748)	(523)	(130)	(41)	(2027)	
Gen.Hosp.	% 28.4	39.3	24.9	5.8	1.6	(1428)	3.87
Spec. Hosp.	% 20.8	39.6	34.4	2.1	3.1	(96)	3.73
Nsg.Home-ECF	% 22.0	33.5	30.7	10.8	3.0	(296)	3.60
Public Health	% 33.3	3.3	16.7		16.7	(6)	3.67
Priv.Duty	% 50.0	20.0	20.0	10.0		(20)	4.10
Dent.Off & Cl	% 35.1	24.3	24.3	13.5	2.7	(37)	3.76
Dental Lab.	% 50.0	50.0				(2)	4.50
Med.Off.& Cl	% 49.2	24.2	20.8	5.0	.8	(120)	4.16
Sch. Nursing	% 33.3	16.7	33.3		16.7	(6)	3.50
Comm.Med.Lab.	%100.0					(2)	5.00
Rehab. Center	% 50.0		50.2			(2)	4.00
Armed Forces	%100.0					(1)	5.00
Non-Health Inst.	% 27.3	36.4	18.2		18.2	(11)	3.55

To a lesser degree, relevance of occupation also had some affect on the level of satisfaction with initial employment expressed by the graduates. In this case, the mean satisfaction scores ranged from 3.00 to 3.85. The 3.00, expressed by those taking initial employment in non-health fields, is the lowest satisfaction level expressed by any group. It is not possible to determine reasons for this lower satisfaction level from the data collected, but it could possibly be related to the inability to obtain employment in the health field soon after graduation due to geographic location of family, lack of desirable job vacancies

in a particular occupation and other similar reasons. Dissatisfaction with career choice may also be a factor. See Table 4.15.

TABLE 4.15

SATISFACTION WITH INITIAL EMPLOYMENT
BY RELEVANCE OF THAT JOB

N =	Extremely Satisfied (587)	Quite Satisfied (750)	Satisfied (524)	Dissatisfied (134)	Very Dissatisfied (41)	(N) (2036)	Mean Satisfaction Level
Occup. For Which Prepared	%28.9	37.1	25.6	6.5	2.0	(1995)	3.85
Related Occupation	%27.3	24.2	30.3	9.1	9.1	(33)	3.79
Non- Health Occupation	%12.5	25.0	37.5	12.5	12.5	(8)	3.00

MOST CURRENT EMPLOYMENT

As mentioned in the early part of this chapter, one purpose of this follow-up study was to establish a longitudinal overview of the employment trends of Iowa's HOE graduates. The initial employment experience was discussed in the previous section of this chapter. This section will discuss the "current" or most current employment experience of the graduates.

The results of this study reveal that 51.4% of all graduates have held only one job since graduation from their HOE program. Another one percent, as noted in Table 4.1 have never been employed. Of the

graduates who have held more than one employment position, 62.5% have held three and only 1.5% have held more than three. The data indicate a highly stable employment pattern among HOE graduates.

The remainder of this section will be based on only those graduates who have held more than one job.

Relevance of Most Current Employment

The most current employment for 92% of those graduates who have held two or more jobs since graduation is in the occupation for which they were prepared. Data shown in Table 4.15 indicates a slight tendency for the graduates of the medical office assistant programs to leave the field. In this program, 13.6% took their second or later jobs in a non-health field. Basing this statistic on all MOA graduates, it would be about 5.8%, or approximately four percentage points higher than the portion who took initial employment in a non-health occupation.

In the remaining programs, a very high proportion of the graduates reported their most current employment in the health field for which they were prepared. Generally this proportion ranged at 90% and up. See Table 4.16 for the relevance distribution of most current employment for all programs.

There was a noticeable drop in the number of graduates working full-time in their most current employment situation. Of those who reported more than one job, 76% were full-time positions while 24% were part-time. Relating this figure to initial employment reveals approximately a six percent reduction in full-time employment.

TABLE 4.16

RELEVANCE OF MOST CURRENT EMPLOYMENT
BY PROGRAM TYPE

		Occupation for Which Prepared	Related Occupation	Non-Health Occupation	
N =		(933)	(49)	(32)	(N)
LPN	%	93.7	4.0	2.4	(884)
ADN	%	94.4		5.6	(36)
ORT	%	100.0			(4)
MOA	%	61.4	25.0	13.6	(44)
MLA	%	100.0			(22)
DA	%	94.4		5.6	(18)
OT	%		100.0		(1)
OTA	%	20.0	40.0	40.0	(5)
All Grads		92.0	4.8	3.2	(1014)

Where Graduates Were Employed -- Most Current Employment

As in initial employment, the general hospital category continues to rank highest (50.2% of those who have had more than one job) as the type of institution where HOE graduates are employed. However, compared with the initial employment figure of 70.6%, the 50.2% figure would seem to indicate a tendency for graduates to move away from the general hospital. The increase in the nursing home category, may indicate that graduates, in some cases, move from the general hospital to nursing homes for continued employment. These data do not indicate a major

shift and probably no more than 20% of all graduates have been employed in extended care facilities. This trend is most obvious among practical nurse and medical assistant graduates and is actually reversed among graduates of the ADN programs.

Three new institution types appeared on an analysis of most current employment patterns: ambulance service, industrial and "hotel" nursing, and blood banks. Although these categories are small, they are included in Table 4.17 to show the additional scope of employment opportunities.

TABLE 4.17

TYPE OF INSTITUTION--MOST CURRENT EMPLOYMENT OF GRADUATES EMPLOYED IN THE OCCUPATION FOR WHICH THEY WERE PREPARED, BY PROGRAM TYPE

	LPN	ADN	ORT	MOA	MLA	DA	OT	OTA	All Graduates
N =	(860)	(33)	(4)	(38)	(21)	(16)	(1)	(4))	(977)
	%	%	%	%	%	%	%	%	%
Gen. Hosp.	51.0	75.7	100.0	18.4	71.4			25.0	50.2 (490)
Spec. Hosp.	3.4	12.1		2.6	4.8	6.3	100.0	25.0	3.9 (38)
Nsg.Home-ECF	24.5	6.1		10.5					22.2 (217)
Public Health	1.6							25.0	1.5 (15)
Private Duty	1.7								1.5 (15)
Dent.Off. & Cl.	.5			7.9		81.2			2.0 (20)
Dental Lab.						6.3			.1 (1)
Med.Off. & Cl.	14.8	6.1		57.9	19.0	6.3			16.0 (156)
Child.Hm-St. Sch.	.8								.7 (7)
Sch. Nursing	.6								.5 (5)
Comm.Med.Lab.					4.8				.1 (1)
Rehab. Center	.1							25.0	.2 (2)
Armed Forces	.1								.1 (1)
Amb. Service	.1								.1 (1)
Ind. & Other Nsg	.7								.6 (6)
Blood Bank	.1			2.6					.2 (2)

There is little variation between sizes of institutions in which graduates reported their most current employment and sizes of institutions in which they reported their initial employment as shown in Table 4.4. Noticeable, however, is a slight increase in the number of smaller institutiors reported under most current employment. This may be explained in part, by younger graduates taking initial employment in the city where their HOE program was located and later returning to their home area. This shift can be most readily seen in the specialized hospital category. See Table 4.18

TABLE 4.18

TYPE OF INSTITUTION BY BED SIZE—
MOST CURRENT EMPLOYMENT

		Number of Beds									
		0-25	26-49	50-99	100-149	150-199	200-299	300-399	400-499	500-over	
N =		(42)	(86)	(134)	(104)	(62)	(64)	(86)	(34)	(80)	(692)
Gen. Hosp.	%	1.5	8.1	10.5	14.0	13.3	12.9	17.9	7.4	14.4	(458)
Spec. Hosp.	%	7.1	10.7	10.7	7.1		7.1	10.7		46.4	(28)
Nsg. Homes-ECF's	%	15.3	22.4	40.8	18.9	.5	1.5	.5			(196)
Other Instit	%	30.0	20.0	30.0	10.0					10.0	(10)
All Institutions		6.1	12.4	19.4	15.0	9.0	9.2	12.4	4.9	11.6	

Location of Most Current Employment

A greater geographic range can be noted in the location of most current employment among those graduates who reported having more than one job. More than 70% of the graduates took initial employment within 25 miles of the health agency where they received most of their clinical experience. For most current employment, this was true for only 50% of those who reported having more than one job. Several factors may be involved in this increased mobility. For example, some graduates will marry and move to where their new spouses are employed. Other graduates may work for a period of time and later join their spouse in a different state or country while in the military service. The study did not attempt to reveal specific reasons; it does show, however, a definite trend for second and later employment situations to be a greater distance from the primary clinical agency than initial employment. See Table 4.19.

TABLE 4.19

LOCATION OF MOST CURRENT EMPLOYMENT
IN RELATION TO PRIMARY CLINICAL AGENCY

Proximity	LPN	ADN	ORT	MOA	MLA	DA	OT	OTA	All Graduates	
N =	(878)	(36)	(4)	(44)	(22)	(18)	(1)	(3)		(1006)
	%	%	%	%	%	%	%	%	%	
Same Agency	6.6	5.6	25.0	2.3	4.5	11.1			6.5	(65)
Same City	32.5	8.3	75.0	52.3	22.7	55.6		66.7	32.9	(331)
Less t/25 mi.	11.8	2.8		9.1	13.6	11.1			11.3	(114)
25-49 mi.	10.3	5.6		9.1	4.5				9.6	(97)
50-99 mi.	11.2	22.2		11.4	22.7			33.3	11.6	(117)
100-199 mi.	7.6	11.1		2.3		5.6			7.3	(73)
200-299 mi.	3.9	16.7		9.1	4.5	5.6			4.6	(46)
300 mi. or more	16.2	27.8		4.5	27.3	11.1	100.0		16.2	(163)

Comparing the location of most current employment with the relevance of that employment, it appears that the distribution of geographic distances is quite similar to the initial employment shown in Table 4.7, with one exception. Graduates in all three relevance categories appear to have taken their most current employment greater geographic distances from their primary clinical agency than their initial employment. See Table 4.20

TABLE 4.20

LOCATION OF MOST CURRENT EMPLOYMENT IN RELATION TO PRIMARY CLINICAL AGENCY BY PROGRAM TYPE

Proximity N =	Occupation for Which Prepared (928)	Related Occupation (49)	Non-Health Occupation (29)
	%	%	%
Same Agency	6.9	2.0	
Same City	32.9	36.7	31.0
Less t/25 mi.	11.4	8.2	13.8
25-49 mi.	9.1	4.1	10.3
50-100 mi.	11.4	14.3	10.3
100-199 mi.	7.0	12.2	7.0
200-299 mi.	4.5	6.1	3.5
300 mi. & over	16.0	16.3	24.1

In analyzing the location of most current employment, a second reference was incorporated. This second reference was the institution where initially employed. This reference was used to determine if graduates, after a period away, returned to employment in the same health agency where they were employed initially. Only about 10% of those graduates who have had more than one job reported their most

current employment in the same health agency as their initial employment. As can be seen in the following table, the distribution of distance scores is very similar in relation to both primary clinical agency and location of initial employment. See Table 4.21 on following page.

Most Current Salaries

Graduates who have held more than one job show an increase of approximately $102 in median most current salary over the median initial salary of all graduates. The range in median most current salaries is from $335 for the medical assistant graduates to $587 for the ADN graduates.

Because of the design of the questionnaire, it is not possible to compare initial salary with most current salary for all graduates to determine change trends. It seems fair, however, to assume that a somewhat similar increase trend exists among all graduates as exists among those that have held more than one job. Table 4.22 on page 75 shows the distribution of most current salaries for each type of program.

TABLE 4.21

LOCATION OF MOST CURRENT EMPLOYMENT
IN RELATION TO INITIAL EMPLOYMENT

N =	LPN (892)	ADN (36)	ORT (4)	MOA (44)	MLA (22)	DA (17)	OT (1)	OTA (3)	All Graduates (1000)	
	%	%	%	%	%	%	%	%		
Same Health Agency	9.7	11.1		9.2	4.6				9.4	(94)
Same City	34.8	16.7	75.0	47.7	13.6	58.8		33.3	34.8	(348)
Less t/25 mi.	13.2			4.6	13.6	11.7			12.2	(122)
24 - 49 mi.	7.8	5.6		9.2	9.1			33.3	7.7	(77)
50 - 99 mi.	9.4	16.7		11.4	27.1	5.9			10.0	(100)
100-199 mi.	5.6	11.1		2.3	4.6	5.9			5.6	(56)
200-299 mi.	3.9	13.9		6.9	4.6	5.9		33.3	4.5	(45)
300 mi. or more	15.6	25.0	25.0	9.2	22.7	11.7	100.0		15.8	(158)

TABLE 4.22

MOST CURRENT SALARY OF GRADUATES
WHO ARE EMPLOYED FULLTIME IN THE
OCCUPATION FOR WHICH THEY WERE PREPARED

N =	LPN (598)	ADN (25)	ORT (4)	MOA (24)	MLA (16)	DA (15)	OTA (1)	All Graduates (683)	
	%	%	%	%	%	%	%		
Less than $240	1.2			4.2		6.7		1.3	(9)
$240 - $319.99	7.9			37.5		20.0		8.6	(59)
$320 - $399.99	30.4		50.0	45.8	18.8	40.0	100	30.0	(205)
$400 - $479.99	42.3	12.0	25.0	12.5	43.8	33.3		39.8	(272)
$480 - $559.99	12.2	12.0	25.0		31.3			12.0	(82)
$560 - $639.99	4.5	76.0			6.3			6.9	(47)
$640 and over	1.0							.9	(6)
Self Employed	.5							.9	(3)
Mdn Salary	421.67	587.35	399.99	334.55	357.11	359.99	360.00	420.09	

Graduates reporting their most current employment in health-related occupations experienced about a $76 increase in median salary. Those with most current employment in non-health occupations experienced an increase of about $118 in median salary. This is about $17 more than the increase recorded for graduates reporting their most current employment in the occupation for which they were prepared. Higher salary may, in part, explain why some graduates take second or later jobs in a non-health occupation. See Table 4.23.

TABLE 4.23

MOST CURRENT SALARIES OF GRADUATES EMPLOYED FULLTIME
BY RELEVANCE OF MOST CURRENT EMPLOYMENT

	Occupation for Which Prepared	Related Occupation	Non-Health Occupation
N =	(683)	(44)	(22)
	%	%	%
Less than $240	1.3	4.6	9.1
$240 - 319.99	8.6	15.9	13.6
$320 - 399.99	30.0	31.8	31.8
$400 - 479.99	39.8	18.2	13.6
$480 - 559.99	12.0	9.1	9.1
$560 - 639.99	6.9	11.4	9.1
$640 or more	.9	4.6	13.6
Self Employed	.4	4.6	
Mdn Salary	420.09	388.55	388.55

Tenure in Most Recent Employment

The mean length of tenure in the most current employment situation, reported by those who have had more than one job, was 1.6 years. There are too many variable factors involved to make a comparison between tenure in initial employment and tenure in most current employment; such a comparison would be meaningless. For example, a graduate who had been employed ten years in his initial employment may have just recently changed positions for any of a variety of legitimate reasons. This person's tenure in current employment will appear very short, while in all reality it will be much longer. The distribution of most current tenure scores is presented in Table 4.24.

TABLE 4.24

TENURE IN MOST RECENT EMPLOYMENT

N =	LPN (838)	ADN (32)	ORT (4)	MOA (43)	MLA (21)	DA (17)	OT (1)	OTA (3)	ALL	GRADS (959)
	%	%	%	%	%	%	%	%	%	
Less than 1 mo	3.7	12.5		9.3	4.8	35.3			4.2	(40)
1 - 6 months	22.2	18.8	50.0	25.6	33.3	41.2	100.0		22.8	(219)
6 - 12 months	24.1	37.5	50.0	39.5	33.3	23.5		33.3	25.9	(248)
1 - 2 years	25.1	15.6		20.9	23.8			66.7	24.5	(235)
2 - 3 years	10.4	9.4		4.7	4.8				9.7	(93)
3 - 5 years	10.0	6.3							9.0	(86)
5 - 7 years	3.3								2.9	(28)
7 - 9 years	1.1								1.0	(9)
11 yrs. & over	.1								.1	(1)

Satisfaction with Most Current Employment

Generally speaking, the level of satisfaction with most current employment was higher than for initial employment. Mean satisfaction with current employment was 3.97 while the mean satisfaction with initial employment was 3.84. This increase in satisfaction level may be the result of a portion of the graduates taking whatever employment was available at the time of graduation and later, moving to a new position which better suits their desires or needs. Table 4.25 shows the distribution of satisfaction scores for most current employment for the various program types. See Table 4.25.

TABLE 4.25

LEVEL OF SATISFACTION WITH MOST CURRENT EMPLOYMENT

N =	LPN (819)	ADN (32)	ORT (4)	MOA (41)	MLA (21)	DA (17)	OT (1)	OTA (1)	ALL GRADS (936)	
Value	%	%	%	%	%	%	%	%	%	
Ext. Satis. (5)	33.0	25.0	75.0	43.9	28.6	41.2		100	33.4	(313)
Quite Satis. (4)	38.7	46.9	25.0	14.6	42.9	29.4			37.7	(353)
Satisfied (3)	22.8	21.9		26.8	23.8	23.5			22.9	(214)
Dissatisfied (2)	4.4	3.1		12.2	4.8	5.9	100		4.8	(45)
Very Dissatis. (1)	1.1	3.1		2.4					1.2	(11)
Mean Satis. Level	3.98	3.88	4.75	3.85	3.95	4.06	2.00	4.67	3.97	

Age seems not to have much affect on either the satisfaction with initial employment or with most current employment as expressed by the graduates. For initial employment the range of mean satisfaction scores was from 3.77 to 4.31, a spread of .54. For most current employment

this range was from 3.86 to 4.32, a spread of .45. Graduates over 55 years continued to express a slightly higher level of satisfaction than most other age groups. See Table 4.26.

TABLE 4.26

SATISFACTION WITH MOST CURRENT EMPLOYMENT
BY AGE IN 1970

N =		Ext. Satis. (313)	Quite Satis. (353)	Satis. (214)	Dissatis. (45)	Quite Dissatis. (1)	(N)	Mean Satis. Level
Value =		(5)	(4)	(3)	(2)	(1)		
20 - 24 years	%	31.5	38.0	22.6	5.8	2.2	(416)	3.91
25 - 29 years	%	30.3	44.2	22.4	3.0		(165)	4.02
30 - 34 years	%	43.1	29.4	21.6	5.9		(51)	4.10
35 - 39 years	%	38.6	24.6	31.6	5.3		(57)	3.96
40 - 44 years	%	26.4	45.3	26.4	1.9		(53)	3.96
45 - 49 years	%	33.8	39.4	19.7	5.6	1.4	(71)	3.97
50 - 54 years	%	28.6	37.5	25.0	8.9		(56)	3.86
55 - 59 years	%	52.4	31.0	14.3		2.4	(42)	4.31
60 - 64 years	%	52.6	26.3	21.1			(19)	4.05
65 years & over	%	50.0		50.0			(4)	4.00
All Graduates		33.4	37.7	22.9	4.8	1.2	(936)	3.97

Relevance of job seems to have the greatest affect on level of satisfaction with most current employment expressed by those who have held two or more jobs. Mean satisfaction with most current employment ranged from 3.60 to 4.80, a spread of 1.20. The range for initial employment was from 3.00 to 3.85, a spread of .85. Only four categories

of institutions had mean satisfaction levels of less than 4. They were: 1) general hospitals, 2) specialized hospitals, 3) nursing homes and ECF's, and 4) industrial and other nursing. See Table 4.27.

TABLE 4.27

SATISFACTION WITH MOST CURRENT EMPLOYMENT
BY TYPE OF INSTITUTION

N=		Ext. Satis. (308)	Quite Satis. (339)	Satis. (209)	Dissatis. (45)	Quite Dissatis. (9)	(N)	Mean Satis. Level
Gen. Hosp.	%	30.7	38.5	24.2	5.6	1.8	(462)	3.93
Spec. Hosp.	%	25.8	38.7	25.8	3.2	6.4	(31)	3.74
Nsg. Home ECF	%	27.7	39.6	26.2	5.4	.9	(202)	3.88
Pub. Hlth. Agcy.	%	57.1	21.4	21.4			(14)	4.36
Private Duty	%	46.2	30.8	23.1			(13)	4.23
Dental Office & Clinic	%	47.4	26.3	10.5	15.8		(19)	4.05
Med. Office & Clinic	%	46.9	34.0	17.0	2.0		(147)	4.26
Child Home - St. School	%	42.9	42.9	14.2			(7)	4.29
Sch. Nsg.	%	60.0	20.0	20.0			(5)	4.40
Ind. & Other Nsg.	%	20.0	40.0	20.0	20.0		(5)	3.60
Other Inst.	%	80.0	20.0				(5)	4.80

CURRENT EMPLOYMENT STATUS

Nearly 78% of all graduates of Iowa's HOE programs, from 1956 through 1969, were currently employed at the time of the survey. It should be recalled at this point that one of the two major factors revealed by the

validation procedure reported in Chapter II is that current employment status data may be somewhat under-representative. Because of this, it seems reasonable to assume that 77.8% is actually a minimal figure, and probably a higher percentage of all graduates are employed. The proportion of graduates currently employed ranged from 33.3% for the environmental technician program to 100% in the orthopaedic technician program. See Table 4.28.

TABLE 4.28

CURRENT EMPLOYMENT STATUS

N =	LPN (1734)	ADN (70)	ORT (19)	MOA (99)	MLA (55)	DA (55)	OT (4)	ET (3)	OTA (9)	ALL GRADS (2048)	
	%	%	%	%	%	%	%	%	%	%	
Employed	77.3	84.3	89.5	80.8	80.0	74.5	100	33.3	77.8	77.8	(1594)
Not Employed	22.7	15.7	10.5	19.2	20.0	25.5		66.7	22.2	22.2	(454)

A variety of reasons why some graduates were not currently employed were expressed. By far, the most commonly expressed reasons centered around young children and other family responsibilities. Among the reasons expressed were: pregnancy, young children, with spouse in the military, and other family-connected responsibilities in general. The major single reason expressed for current non-employment was young children in the home (46.4% of the graduates).

An important fact to note is that only 6.2% expressed reasons for non-employment related to job availability. A portion of these indicate only that satisfactory hours were not available. In numbers,

this represents a total of 24 graduates which comprise only three-fourths of one percent of the total sample. See Table 4.29.

TABLE 4.29

REASONS FOR UNEMPLOYMENT

N =	LPN (333)	ADN (9)	ORT (2)	MOA (16)	MLA (10)	DA (12)	ET (2)	OTA (2)	ALL GRADS (386)
	%	%	%	%	%	%	%	%	%
Retirement	2.7								2.3 (9)
Family Resp.,Gen.	12.9	11.1		12.5					11.9 (46)
Yng. Child - Home	49.5	44.4	50.0	25.0	30.0	16.7			46.4 (179)
Pregnancy	12.0	33.3		12.5	10.0	16.7		50.0	12.7 (49)
Spouse in Mil.	1.5				20.0	8.3			2.1 (8)
Illness	6.0								5.2 (20)
Pers. Reasons	4.8	11.1			10.0	25.0			5.4 (21)
Attdng. Schl.	2.4		50.0		20.0		50.0	50.0	3.4 (13)
Job Not Avail.	2.1			18.8	10.0	25.0	50.0		3.9 (15)
Job Term.	.6			12.5					1.0 (4)
Satis. Hrs. N/A	1.5								1.3 (5)
Recently or About to Move	3.9			18.8		8.3			4.4 (17)

As mentioned earlier, the health occupations continue to be, for the most part, women's occupations. Because of this, as well as the greater number of younger graduates in recent years, it can be speculated that 20-25% of the workers in the health occupations will be out of the labor force at any given time. Most of this group will leave their occupational

role to bear and rear their families to school age and then return to work. This speculation is supported to a degree in that 65% of those who were currently not employed indicated they planned to return to work at various times in the near future as displayed in Table 4.30.

TABLE 4.30

PLANS TO RETURN TO WORK

N =	LPN (250)	ADN (9)	ORT (2)	MOA (13)	MLA (8)	DA (9)	ET (1)	OTA (2)	ALL GRADS (294)
	%	%	%	%	%	%	%	%	%
1 Month	10.8	33.3		23.1	12.5	11.1			11.9 (35)
3 Months	10.0					11.1			8.8 (26)
6 Months	11.6	22.2			25.0			50.0	11.6 (34)
1 Year	11.2	22.2		15.4	12.5	11.1		50.0	11.9 (35)
2 Years	2.4		50.0	7.7			100.0		3.1 (9)
5 Years	12.0					11.1			10.5 (31)
7 Years	1.6			7.7					1.7 (5)
Not Sure	37.6	22.2	50.0	15.4	37.5	33.3			35.7 (105)
As Soon as Poss.	2.8			30.8	12.5	22.2			4.8 (14)

Most graduates (97.5%) also indicated they plan to return to the same occupation in which they were previously employed. This indicates that these graduates are probably not out of the labor force because they were unhappy with their jobs. See Table 4.31.

TABLE 4.31

TYPE OF OCCUPATION RETURNING TO

N =	LPN (244)	ADN (9)	ORT (2)	MOA (10)	MLA (9)	DA (6)	ET (1)	OTA (1)	ALL GRADS (282)	
	%	%	%	%	%	%	%	%	%	
Same Occup.	97.9	77.8	50.0	100	100	100		100	97.5	(275)
Diff. Occup.	2.1	22.2	50.0				100		2.5	(7)

In this table, a total of six LPNs who plan to return to work as RNs are categorized in the "same occupation" group. Among the six are four who plan to return as RNs, one who plans to return as a BSN degree and one who will return with an MSN degree.

MOBILITY AMONG GRADUATES

A very high level of all graduates of Iowa's HOE programs have remained in the state. More precisely, 86.5% of all graduates, from 1956 through 1969, were residents of the state at the time of the survey. Only 13.5% have moved permanently from Iowa.

The reader again is reminded that the second factor revealed by the validation procedure, reported in Chapter II, is that figures with regard to remaining in the state are probably under-representative. Actually, more than 86.5% have probably remained in the state.

The graduates who indicated they had moved permanently from the state reported a total of 39 states to which they had moved. In addition, two graduates had moved to foreign countries.

For the most part, the states bordering Iowa were the most common to which graduates moved. This may be accounted for, in part, in that there are several HOE programs located in border cities such as Davenport, Dubuque, Sioux City, Council Bluffs and several near both the north and south borders of Iowa. Graduates of programs in these localities who move within their metropolitan area may very well be actually moving from the state. It is not known how many might be living in border cities of other states and working in Iowa. Table 4.32 on the next page lists in rank order the states to which graduates have moved.

TABLE 4.32

STATES TO WHICH GRADUATES
HAVE MOVED

STATE	NUMBER	STATE	NUMBER
1. Illinois	53	21. North Carolina	3
2. Minnesota	28	22. Pennsylvania	3
3. California	25	23. Virginia	3
4. Nebraska	25	24. Washington State	3
5. Missouri	24	25. Alaska	2
6. Colorado	19	26. Arkansas	2
7. South Dakota	10	27. New Jersey	2
8. Wisconsin	9	28. Oklahoma	2
9. Kansas	6	29. Alabama	1
10. Texas	6	30. Connecticut	1
11. Michigan	5	31. Kentucky	1
12. Ohio	5	32. Louisiana	1
13. Arizona	4	33. Mississippi	1
14. Florida	4	34. Nevada	1
15. Massachusetts	4	35. New York	1
16. Georgia	3	36. North Dakota	1
17. Hawaii	3	37. Oregon	1
18. Indiana	3	38. South Carolina	1
19. Montana	3	39. Tennessee	1
20. New Mexico	3	Foreign Country	2
		TOTAL	275

CHAPTER 5

GRADUATES' VIEWS OF THEIR HOE PROGRAMS

To reiterate, the purpose of this study is to provide a broad base of data useable by a variety of groups and individuals as they are faced with evaluation and program planning. Data contained in this chapter represent viewpoints, opinions and attitudes expressed by graduates about the HOE programs from which they graduated. Questions posed to the graduates were intended to elicit feelings and comments which, when put in context with other local factors, would help program faculties evaluate their programs in terms of effectiveness and needed curriculum changes.

Two types of program evaluation information were obtained, (1) general evaluation, (2) specific recommendations for improvement. Both will be reported in this chapter.

GENERAL EVALUATION OF PROGRAMS

Adequacy of Preparation

When asked, in terms of their experience since graduation, if the program they graduated from prepared them adequately for their occupational role, 89% of the graduates felt it did. There was quite a large range among the various programs in this response. The program whose graduates had the least tendency to feel adequately prepared was the occupational therapy assistant program which had been in operation only one year. Fifty seven percent of the graduates of the OTA program

felt adequately prepared. All graduates of the operating room technician, orthopaedic technician and environmental technician programs felt adequately prepared. See Table 5.1.

TABLE 5.1

PREPARED ADEQUATELY BY PROGRAM

	LPN	ADN	ORT	MOA	MLA	DA	OT	ET	OTA	ALL GRADS
N =	(1699)	(68)	(20)	(101)	(53)	(55)	(3)	(3)	(7)	(2009)
	%	%	%	%	%	%	%	%	%	%	
Yes	88.8	94.1	100.0	83.2	94.3	92.7	100.0	100.0	57.1	89.0	(1788)
No	11.2	5.9		16.8	5.7	7.3			42.9	11.0	(221)

Level of General Satisfaction With HOE Program

In keeping with the general feeling of adequacy with their preparation, the graduates expressed a high level of overall satisfaction with the programs from which they graduated. The same procedure was used in determining satisfaction with HOE programs as was used in determining satisfaction with employment. The responses to this question were again arranged on a continuum and weighted as follows: Extremely Satisfied (5), Quite Satisfied (4), Satisfied (3), Dissatisfied (2), and Very Dissatisfied (1). The theoretical mean, or the mean expected if there were an equal number of responses to each of the five foils, is 3.0.

The mean level of satisfaction expressed by all graduates was 4.05, slightly more than quite satisfied. Mean satisfaction for individual programs ranged from 2.1, which is below the theoretical mean, for the occupational therapy assistant program to 4.33 for the environmental

technician program. See Table 5.2 for the distribution of satisfaction scores for each type of program.

TABLE 5.2

GENERAL SATISFACTION WITH HOE PROGRAM

N =	LPN (1724)	ADN (70)	ORT (19)	MOA (100)	MLA (54)	DA (55)	OT (4)	ET (3)	OTA (8)	ALL GRADS	(2037)
Value	%	%	%	%	%	%	%	%	%	%	
E. Sat.(5)	29.7	18.6	52.6	33.0	25.9	29.1	25.0	66.7		29.6	(601)
Q. Sat.(4)	44.4	57.1	31.6	34.0	51.9	41.8	50.0		25.0	43.9	(900)
Satis. (3)	23.8	22.9	15.8	22.0	20.4	23.6	25.0	33.3	12.5	23.8	(479)
Dissa. (2)	1.7	1.4		11.0	1.9	1.8			37.5	2.3	(47)
V. Dis.(1)	.3					3.6			25.0	.5	(10)
Mean Satis. Level	4.01	3.93	4.15	3.89	4.03	3.98	4.00	4.33	2.11	4.05	

Balance of Theoretical Content and Clinical Experience

A very important and integral part of curriculum design in health occupations education is an appropriate balance between theoretical content and clinical experience. It is conceived by most health occupations educators that it is extremely important for the student to have sufficient and appropriately timed clinical experience to enable him to apply the concepts, principles and general knowledge he has learned in real patient care experiences under the supervision of the faculty. In many cases, because of a press for time caused by expanding knowledge and changing occupational roles, this important balance becomes too oriented to either the theory or clinical sides. Most often, programs become too theoretical oriented in terms of their stated objectives and goals.

For this reason, two questions were included in the questionnaire to determine in a general way how the graduates perceived the balance between theoretical content and clinical experience. Their responses indicate there may have been some minor shift in emphasis to theoretical content.

Eighty two percent of the graduates felt the theory was "about right." However, 11.6% felt there was too little theory while 6.4% felt there was too much. Graduates of the associate degree nurse, dental assistant and occupational therapy assistant programs expressed a greater feeling that there was too much theory in the programs they attended. See Table 5.3.

TABLE 5.3

AMOUNT OF THEORY

N =	LPN (1707)	ADN (70)	ORT (20)	MOA (103)	MLA (54)	DA (55)	OT (4)	ET (3)	OTA (8)	ALL GRADS	(2024)
	%	%	%	%	%	%	%	%	%	%	
Too Much	5.0	2.9	35.0	12.6	3.7	23.6			62.5	6.4	(128)
Too Little	11.9	5.7		6.8	24.1	12.7	25.0			11.6	(235)
Right Amt.	83.1	91.4	65.0	80.6	72.2	63.6	75.0	100	37.5	81.9	(1661)

On the other hand, 41.6% of the graduates felt there was too little clinical experience in their programs. Only 0.6% felt they had too much clinical experience. Among the programs, those who thought there was too little clinical experience ranged from 35.9% in the medical office assistant program to 100% in the occupational therapy assistant program.

See Table 5.4.

TABLE 5.4

AMOUNT OF CLINICAL EXPERIENCE

N =	LPN (1719)	ADN (70)	ORT (20)	MOA (103)	MLA (54)	DA (55)	OT (4)	ET (3)	OTA (8)	ALL GRADS (2036)	
	%	%	%	%	%	%	%	%	%	%	
Too Much	.5			2.9	1.9					.6	(13)
Too Little	40.4	58.6	40.0	35.9	40.7	61.8	50.0		100	41.6	(847)
Right Amt.	59.0	41.4	60.0	61.2	57.4	38.2	50.0	100		57.8	(1176)

Personal Rewards

There are many reasons why people achieve an education leading to a role in the occupational world. Among them are financial security and personal satisfaction. Recent inflationary trends and increased desires for a higher standard of living are leading many women to the labor force. In addition, many women find themselves in the position of having to support a family because of a broken home or disable husband.

Ninety-five percent of the graduates indicated that completing an HOE program and preparing themselves for a role in the health care industry have definitely provided them a greater degree of economic security. Only 50.0% of the occupational therapy assistant and 66.7% of the environmental technician graduates expressed this feeling while 100% of the associate degree nurse and orthopaedic technician graduates felt their HOF program increased their financial security. See Table 5.5 on following page.

TABLE 5.5

DID THE PROGRAM PROVIDE ECONOMIC SECURITY?

N =	LPN (1684)	ADN (69)	ORT (18)	MOA (98)	MLA (54)	DA (53)	OT (3)	ET (3)	OTA (8)	ALL GRADS (1990)
	%	%	%	%	%	%	%	%	%	%	
Yes	96.6	100.0	88.9	83.7	98.1	83.0	100.0	66.7	50.0	94.9	(1899)
No	3.4		11.1	16.3	1.9	17.0		33.3	50.0	5.1	(91)

Many people choose an occupational role in the health care fields because they gain personal satisfaction from helping others. This satisfaction factor can be very significant in performance and tenure patterns of health workers.

Almost all of the graduates (98.8%) responded that completing an HOE program, or employment as a health worker, has provided them with a personal satisfaction they would not have achieved had they not done so. In only the environmental technician and occupational therapy assistant program didless than 90% indicate this to be true. See Table 5.6.

TABLE 5.6

DID THE PROGRAM PROVIDE PERSONAL SATISFACTION?

N =	LPN (1717)	ADN (69)	ORT (20)	MOA (99)	MLA (53)	DA (51)	OT (3)	ET (3)	OTA (5)	ALL GRADS (2000)
	%	%	%	%	%	%	%	%	%	%	
Yes	98.7	97.1	95.0	93.9	100.0	94.1	100.0	66.7	60.0	98.8	(1983)
No	1.3	2.9	5.0	6.1		5.9		33.3	40.0	1.2	(37)

SPECIFIC RECOMMENDATIONS FOR PROGRAM IMPROVEMENT

Each graduate was given the opportunity to recommend improvements in as many as four specific areas or parts of the program he attended. This part of the questionnaire was designed to allow the graduate to write in the area or areas of the program he felt could be improved and indicate by check marks how it could be improved. Five options for improvement were given on the questionnaire as follows: (1) more time, (2) more theory, (3) more clinical practice, (4) better equipment, and (5) better instruction. It was decided not to restrict responses regarding the method of improvement since it was anticipated that some graduates may wish to express two or more of the options allowed. A graduate could indicate a single option, or any combination of two, three, four, or five of the options stated.

Upon preliminary analysis of these data two significant factors were obvious. First, while many recommendations for improvement were made, most of the individual recommendations accounted for only one or two persons each. This led the project staff to believe that recommendations made by so few graduates probably were related to specific or unusual job requirements not generally common to their occupational field. To remove this factor, it was decided that a recommendation, to be a valid consideration, had to be made by the equivalent of one percent of all respondees for each type of program.

The second factor revealed was that suggested improvements came from persons who had graduated as many as 14 years prior to the survey. With the continual change that has taken place in educational programs

preparing health workers, the validity of these particular suggestions was questioned. After much consideration, it was decided to report the recommendations for improvement made by the 1967, 1968 and 1969 graduates, the three most recent years of graduation included in the survey.

Since recommendations for improvement by graduates are meaningful to only their specific type of program, data in this section will be reported by individual type of program. The tables will show two types of information. First, they will show the percentage of graduates, from the three years included, who made each of the specific recommendations. Second, they will show, based on the number of students in a specific area recommended for improvement, the percentage recommending each option for how the area should be improved.

Practical Nursing

A total of 998 of the respondees were graduated from practical nurse programs in 1967, 1968 and 1969. Of these, 652 or 65.3%, had no suggestions for improvements in the programs they attended. The remaining graduates felt that some sort of improvement was needed in a total of 52 different areas. Of these, only eight areas were recommended by more than one percent of the practical nurse respondees. They were: (1) laboratory techniques, (2) administration of medications, (3) obstetrics, (4) operating room procedures, (5) office techniques, (6) mental health care, (7) pediatrics, and (8) the program in general. Table 5.7 on the following page shows the ways in which the graduates felt these eight areas should be improved.

TABLE 5.7

IMPROVEMENTS RECOMMENDED FOR THE PRACTICAL NURSE PROGRAM BY THE PRACTICAL NURSE GRADUATES

	Laboratory Techniques	Administration of Medications	Obstetrics	Operating Room	Office Techniques	Mental Health	Pediatrics	Program in General	Improvement Not Needed
N =	(174)	(463)	(150)	(40)	(100)	(32)	(29)	(138)	(652)
*% of PN Grads	17.4	46.3	15.0	4.0	10.0	3.2	2.9	13.8	65.2
	%	%	%	%	%	%	%	%	
0 Not sure*	6.9	4.3	2.7	2.5	4.0	3.1	3.4	4.3	
1	9.2	8.0	4.7	10.0	9.0	6.2	3.4	3.6	
2	13.8	2.6	.7	2.5	4.0	3.1		5.8	
3	10.3	17.5	30.7	17.5	22.0	3.1	20.7	29.0	
4	1.1	.4	.7					2.2	
5	4.0	3.2	2.7	2.5	13.0	3.1	20.7	7.2	
6	5.2	3.9	8.7		3.0			2.2	
7	5.7	17.5	20.0	20.0	12.0	3.1	17.2	11.6	
8	1.1	.4						.7	
9	2.3	1.9	1.3		5.0		3.4		
10	6.3	4.3	.7	2.5	5.0		3.4	2.2	
11	.6								
12	1.7						3.4	1.5	
13	.6	.2						5.1	
14	4.0	2.6	3.3	5.0	3.0	6.2	3.4	5.1	
15	.6							.7	
16	5.7	14.9	8.0	12.5	10.0	25.0	6.9	4.3	
18	1.7	.9		2.5				2.2	
19	2.3	.6	.7					1.5	
20	3.4	5.8	8.0	5.0	2.0	6.2	3.4	2.9	
22	.6							.7	
23	.6	.6	2.7	7.5			3.4	1.5	
24	.6	.4				3.1			
25	2.3	.6			1.0			1.5	
26	4.0	5.4	2.7	7.5	3.0	21.9	3.4	2.9	
28		.9	1.3		1.0				
30	5.7	2.7	.7	2.5	3.0	15.6	3.4	1.5	
No Imp. Needed									100.0

*Use improvement option code classifications on next page for Tables 5.7 - 5.13.

IOWA HOE FOLLOW-UP STUDY

Code 22: Ways to Improve Program

0 Unknown
1 More time
2 More theory
3 More clinical practice
4 Better equipment
5 Better instruction

6 More time and more theory
7 More time and more clinical practice
8 More time and better equipment
9 More time and better instruction
10 More theory and more clinical practice
11 More theory and better equipment
12 More theory and better instruction
13 More clinical practice and better equipment
14 More clinical practice and better instruction
15 Better equipment and better instruction

16 More time, more theory and more clinical practice
17 More time, more theory and better equipment
18 More time, more theory and better instruction
19 More time, more clinical practice and better equipment
20 More time, more clinical practice and better instruction
21 More time, better equipment and better instruction
22 More theory, more clinical practice and better equipment
23 More theory, more clinical practice and better instruction
24 More clinical practice, better equipment and better instruction

25 More time,more theory, more clin. practice & better equipment
26 More time, more theory, more clin. practice & better instruction
27 More time, more theory, better equipment and better instruction
28 More time, more clin. practice, better equipment & better instruction
29 More theory, more clin. pract., better equipment & better instruction

30 Improve all five ways
31 Theory equipment instruction

The most significant recommendation, made by 46.3% of the criterion group, was administration of medications. Administration of medications is a changing role for the LPN, since in years past, they did not pass medications. This has changed in current practice, however, and it is now quite common for licensed practical nurses to administer medications. Programs may have not yet put the emphasis on this area of instruction that these students feel is necessary to them. Twenty four percent of those who felt a need for improvement in medications expressed a need for both more theory and clinical experience.

Another 13.8% felt that the program in general should be improved. The largest portion of this group (29%) expressed a need for more clinical experience in all areas of the program. This is quite in keeping with Table 5.4 which shows that 42% of all graduates thought there was too little clinical experience in the programs from which they graduated.

Of the other areas recommended for improvement by more than 10% of the criterion group, two seem to be quite closely related: laboratory techniques and office procedures. It would seem reasonable to assume that these recommendations were made, for the most part, by practical nurse graduates who are employed in medical offices and clinics. This assumption is supported to a great degree by Table 4.17 which shows that about 15% of all practical nurse graduates reported their most recent employment in medical offices and clinics. While much of the knowledge in the practical nurse program is easily transferable to the medical office, these recommendations appear to stem from needs of a different occupational field than the practical nursing program was intended to prepare personnel for. For this reason, it would seem appropriate to

place less valu· on them. However, they may indicate the need for continuing education programs to assist in the transition from one field to another.

The final area recommended for improvement to be discussed is the obstetrics area, mentioned by 15% of the criterion group. Again the largest group (30.7%) felt they needed more clinical experience in obstetrics. This particular area has been increasingly more difficult to schedule for clinical experiences, especially in smaller hospitals, because of fewer births in recent years. Faculties may need to study new ways to obtain adequate clinical experience in the OB area.

Associate Degree Nursing

Of the 71 associate degree nurse graduates who responded to the survey, 55 graduated during 1967, 1968 and 1969. Of the 55, 38 or 69.1% made no suggestions for improvement. The remainder had few recommendations for improving the programs from which they graduated. While recommendations were made in eighteen different areas, only three were mentioned by more than one percent of the graduates. They are: (1) obstetrics, (2) operating room, and (3) the program in general.

For the ADN's, OB seemed to be the major problem area. Over 68%, who expressed a need for improvement, felt they needed more time and/or clinical practice in this area.

Another 14.5% of the criterion group expressed a need for more exposure to operating room nursing. Of this group, 62.5% said they needed more time and/or clinical practice while an additional 25% specified

more time, more theory, and more clinical practice.

The third item, program in general, was mentioned by 12.7% of the criterion group. Here, as was true for practical nurses, the major need expressed was for additional clinical experience throughout the entire program. See Table 5.8.

TABLE 5.8

IMPROVEMENTS RECOMMENDED FOR THE ASSOCIATE DEGREE NURSE PROGRAM BY THE ADN GRADUATES

	Obstetrics	Operating Room	Program in General	Improvement Not Needed
N =	(16)	(8)	(7)	(38)
% of RN Grads (67, 68, 69)	29.1	14.5	12.7	69.1
	%	%	%	%
0 *			14.3	
3	31.3	12.5	57.1	
5	6.3			
7	37.5	50.0	28.6	
10	6.3			
16	6.3	25.0		
20	6.3	12.5		
28	6.3			
No Improv. needed				100.0

*See explanation of code on page 96.

Operating Room Technician Program

There were a total of 20 respondees graduating from operating room technician programs in Iowa in 1968, 1969. 1968 was the first year this program was offered in the state.

Of the 20, 14 or 70% felt no improvements were needed. The remaining respondees recommended changes in two areas. They are: (1) obstetrics, and (2) anatomy. Each was recommended by 15% of the graduates.

Those who recommended the OB area felt about equally the need for more time, theory and clinical practice. Those recommending anatomy expressed the need for more time, theory and better instruction. See Table 5.9.

TABLE 5.9

IMPROVEMENTS RECOMMENDED FOR THE OPERATING ROOM TECHNICIAN PROGRAM BY THE ORT GRADUATES

	Obstetrics	Anatomy	No Improvement Needed
N =	(3)	(3)	(14)
% of 67, 68, 69 Grads	15.0	15.0	70.0
	%	%	%
3 *	33.3		
6	33.3	33.3	
7	33.3		
18		33.3	
20		33.3	
No Improvement Needed			100.0

* See explanation of code on page 96.

TABLE 5.10

IMPROVEMENTS RECOMMENDED FOR THE MEDICAL OFFICE ASSISTANT PROGRAM BY THE MOA GRADUATES

	Laboratory Techniques	Administration of Medications	Office Techniques	Program in General	No Improvement Needed
N =	(36)	(13)	(13)	(12)	(69)
% of 67, 68, 69 Grads	37.9	13.7	13.7	12.6	72.6
	%	%	%	%	%
0 *	5.6		15.4	8.3	
1	16.7	15.4		16.7	
2		7.7	7.7	8.3	
3	11.1	23.1	23.1	16.7	
5	2.8	7.7	23.1		
6	5.6	7.7	7.7		
7	22.2			8.3	
9	5.6	7.7		8.3	
10	2.8		7.7		
11	2.8				
13	2.8				
14	2.8				
16	2.8	7.7		8.3	
20	2.8	15.4	7.7	16.7	
22			7.7		
23				8.3	
25	2.8	7.7			
26	2.8				
28	2.8				
29	2.8				
30	2.8				
No Improvement Needed					100.0

* See explanation of code on page 96.

Medical Office Assistant Program

Ninety five of the 104 medical office assistant respondees graduated during 1967, 1968, 1969. Sixty nine, or 72.6% of this group did not suggest program improvements. The remainder of the criterion group suggested improvements in a total of 17 program areas. Only four of the suggestions, however, were made by more than one percent of the medical office assistant respondees. They were: (1) laboratory techniques, (2) administration of medications, (3) office techniques, and (4) the program in general.

Most commonly mentioned by MOA graduates was the laboratory area. Almost 38% of the criterion group thought some improvement was needed in this content area. Eleven percent of this group indicated the need for more clinical practice in the laboratory while another 22.2% indicated more time as well as clinical practice.

The remaining three areas, medications, office techniques, and program in general were each mentioned by approximately 13% of the criterion group. It is more distinct in these three areas that a portion of the students are asking for more time and clinical experience. Some also indicate that better instruction is needed, primarily in the office practice part of the program. See Table 5.10 on the following page.

Medical Lab Assistant Program

Fifty three of the 57 medical laboratory assistants who responded to the questionnaire graduated during the criterion years of 1967, 1968 and 1969. Thirty eight of the 53, or 71.7%, had no improvements to recommend for the programs they attended.

The remainder of the graduates suggested needed improvements in a total of 12 program areas. Only two of these, however, were mentioned by more than one percent of the graduates. They are: (1) laboratory techniques, and (2) bacteriology.

It would appear that these graduates, by mentioning laboratory techniques, were expressing the need for some type of change in the program in general. The 13 who mentioned laboratory techniques were split about in half as to how they felt the program should be improved. Approximately 46% expressed a need for more clinical experience while the balance of those who made suggested improvements expressed the need for more theory and better instruction.

The group that mentioned bacteriology were primarily interested in more theory, more clinical experience and better instruction in this curricular area. See Table 5.11 on the following page.

Dental Assistant Program

The dental assistant programs had a total of 56 graduates responding to the survey, all of whom graduated during the criterion years. Forty three of the 56, or 76.8%, had no suggestions for program improvement. The remaining graduates suggested changes in eleven program areas, of which three were mentioned by at least one percent of the respondees. The three areas mentioned were: (1) laboratory techniques, (2) X-ray procedures, and (3) the program in general.

The largest group (25%) of those who mentioned laboratory techniques expressed a desire for more time in this area. Another 25% expressed the need for more time, clinical practice and better instruction. The

TABLE 5.11

IMPROVEMENTS RECOMMENDED FOR THE MEDICAL LABORATORY ASSISTANT PROGRAM BY THE MLA GRADUATES

	Laboratory Techniques	Bacteriology	No Improvement Needed
N =	(13)	(10)	(38)
% of 67, 68, 69 Grads	24.6	18.9	71.7
	%	%	%
1 *	7.7		
2	7.7		
3	46.1	10.0	
5		20.0	
7		10.0	
8	7.7		
9	7.7		
10		30.0	
12	7.7	10.0	
14		10.0	
17	7.7		
20		10.0	
23	7.7		
No Improvement Needed			100.0

*See explanation of code on page 96.

remaining 50% of the group mentioning laboratory techniques suggest a variety of different improvements.

In the X-ray area, the largest group (22.2%) wanted more time and clinical practice. The remainder of this group was divided evenly among seven different suggested options for improvement as shown in Table 5.12.

TABLE 5.12

IMPROVEMENTS RECOMMENDED FOR THE DENTAL ASSISTING PROGRAM BY THE DA GRADUATES

	Laboratory Techniques	X-ray Procedures	Program in General	Improvement Not Needed
N =	(16)	(9)	(9)	(43)
% of 67, 68, 69 Grads	28.6	16.1	16.1	76.8
	%	%	%	%
0 *	6.3			
1	25.0	11.1		
3	6.3		77.7	
5	6.3		11.1	
6	6.3			
7		22.2		
9		11.1		
13	6.3			
14	12.5			
15		11.1		
16	6.3	11.1		
18		11.1		
20	12.5	11.1		
21		11.1		
24			11.1	
28	6.3			
30	6.3			
No Improvement Needed				100.0

*See explanation of code on page 96.

Orthopaedic Technician Program

The orthopaedic technician program, like the environmental technician and occupational therapy programs, had graduated only one class prior to the survey. Of the four graduates of this program, only one mentioned a suggested improvement. This individual felt the need for additional

theory and clinical practice in the administration of medications. The remainder of the respondees did not suggest improvements in their programs.

Environmental Technician Program

In this new program, as with the orthopaedic program, only one of the respondees suggested possible program improvements. This individual suggested that more time and better equipment was needed in the laboratory area and that more clinical practice and better instruction was needed in the sewage disposal systems area of the program. The remaining two respondees did not make suggestions for program improvements.

Occupational Therapy Assistant Program

Four of the nine occupational therapy assistant graduates who responded suggested three types of improvements. The three mentioned were: (1) patient contact, (2) crafts, and (3) the program in general.

Two of the four who made suggestions mentioned the need for more clinical practice and better instruction in working with actual patients. One person suggested more practice and better instruction in the crafts area. Three people mentioned the program in general should be improved. Two of these three suggested the need for better instruction while one suggested more clinical practice, better equipment and better instruction. See Table 5.13 on the following page.

TABLE 5.13

IMPROVEMENTS RECOMMENDED FOR THE OCCUPATIONAL THERAPY ASSISTANT PROGRAM BY THE OTA GRADUATES

	Patient Contact	Crafts	Program in General	Improvement Not Needed
N =	(2)	(1)	(3)	(5)
% of Grads	20.0	10.0	10.0	50.0
	%	%	%	%
3 *				
5			66.7	
14	50.0			
20	50.0	100.0		
24			33.3	
No Improvement Needed				100.0

*See explanation of code on page 96.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

Part One

Rather than summarizing each of the variables reported in earlier chapters, this chapter will attempt to focus on some of the main points brought out by the study. Where appropriate, recommendations for improving health occupations education programs will be made.

GRADUATES

A very definite downward trend in median age of graduates has been experienced in the past 12-14 years. While practical nurse graduates, who comprise the majority of HOE graduates, at one time were stereotyped as middle-aged, this is no longer true for this group, or graduates of other HOE programs either. A greater number of young people, just out of high school, are entering programs to prepare for health careers. In the future, this may have some effect on placement, mobility and tenure patterns of HOE graduates.

The health occupations continue to be women's occupations. Only about two percent of all graduates of Iowa's HOE programs are male. One factor which may have to be improved before more males can be attracted to health fields is the salaries which are paid supportive level health workers. Other reasons why more males do not enter health occupations should be studied.

Recommendation:

1. Program faculties, working with health agencies, should design ways to encourage male students to enroll in existing HOE programs.

2. Where needs exist, new programs such as the orthopaedic technician program, which are more attractive to male students, should be considered for implementation.

More than half the HOE graduates had health occupations experience prior to enrolling in an HOE program. Most common was employment as a nurse aide or orderly. Student clubs and volunteer programs also provided previous experience for many graduates. Only one-tenth of one percent of Iowa's HOE graduates were military corpsmen prior to entering their HOE program.

A national effort is currently underway to encourage military corpsmen to enter health care fields upon returning to civilian life. Many will need specific additional preparation for employment in health careers. Health occupations education programs offer returning Iowa veterans a prime opportunity for gaining this preparation.

Recommendation:

1. HOE program faculties should cooperate closely with state and national programs which seek to assist returning military corpsmen in entering health careers. To achieve this goal,

it will be necessary to further develop procedures for evaluating individual applicants for enrollment in HOE programs on an advanced standing basis. Corpsmen will already have gained a portion of the knowledge required for program completion.

EMPLOYMENT

The central objective of health occupations education programs is the preparation of qualified supportive level health personnel for the health care industry. Data resultant from the survey reveal a high level of success in achieving this objective. More than 95% of all graduates of Iowa's HOE programs, from 1956 through 1969, have been employed in the health occupation for which they were prepared. They also have continued a high rate of employment with more than 77% employed at the time of the survey.

Tenure in employment is shorter than expected. However, the fact that most (98%) of the graduates are women has great bearing on length of employment. In addition, 80% were or had been married. In many cases, graduates leave employment for a period of time to rear families, then later they return. A second major factor which undoubtedly has affected tenure rate is that many graduates have moved with their husband when his employment has been transferred or he accepts employment in a new location. With 77% of all the graduates employed, the short tenure seems to have very little affect on overall employment continuum.

Graduates show a high level of satisfaction with their employment experienced. Mean satisfaction scores of approximately four on a five-point continuum show they were "quite satisfied". Five was the highest possible satisfaction which could be expressed. Satisfaction was slightly higher on most current employment, for those who reported having more than one job, than for initial employment reported by all graduates.

The majority of graduates are employed in general hospitals. Initially, more are employed in larger hospitals. In Iowa, more than 70% of the general hospitals are under 100 beds in size. Only 30% of the graduates were initially employed in these smaller institutions. Employment opportunities for a greater proportion of graduates may very well exist in these smaller institutions.

Recommendation:

Program faculties, especially in nursing programs, should plan cooperatively with small hospitals in their area to determine if there is a need for planning clinical experiences in smaller hospitals as a method of attracting graduates to these institutions.

Nursing homes, and other extended care facilities, employ only about 16% of the graduates. This percentage is less than might be expected since Iowa has such a high "senior-citizen" census. There are also a large number of good extended care institutions in the state. Here again, employment opportunities for a greater proportion of the graduates may exist.

Recommendation:

Program faculties should plan cooperatively with nursing homes in their area for a greater amount of clinical experience which will better orient students to these institutions, and encourage graduates to seek employment there.

Questions are asked time and time again by the public regarding the large numbers of graduates, of educational programs supported by state tax funds, who leave the state for employment. This has been especially true in the various health career fields.

A very high percentage (86%) of Iowa's HOE graduates, from 1956 through 1969, have remained in the state, most are currently employed. The data reveal that even within the state, HOE graduates tend not to be a mobile group. Most gain employment relatively close to the geographic location of the HOE program they attended.

Less than 25% of the graduates were not employed at the time of the survey. Major reasons given for non-employment were highly related to young children in the home and other family connected responsibilities. Very few, about 6-7% of those not employed, gave reasons related to availability of employment. Of those who did, about one-third reported that satisfactory hours were not available rather than a lack of job opening as a reason for non-employment.

Most who were not working at the time of the survey plan to return to work in the same occupation sometime in the future. Very few indicate they have left the occupational role permanently.

HEALTH OCCUPATIONS EDUCATION PROGRAMS

Graduates generally indicated a very high level of satisfaction with the HOE programs they attended. The majority felt they were adequately prepared for their occupational role as a result of having attended the HOE program.

When querried about two important factors that motivate people to seek specific preparation for employment, a high percentage gave positive responses. Almost 95% of the graduates indicated they gained a greater degree of financial security by graduating from the HOE program. More than 98% also indicated that they had realized a personal satisfaction through completion of an HOE program and employment in a health career that they would probably not have experienced had they not done so.

Although graduates expressed a high level of satisfaction, there was a very firm attitude expressed in the survey that more clinical experience would have been helpful to them. More than 40% of the graduates expressed this need.

Recommendation:

Faculty members should implement procedures to evaluate the theory-clinical experience balance in individual programs to determine if too little emphasis is being placed on clinical experience.

When given the opportunity to suggest needed program improvements, approximately two-thirds of the graduates did not suggest changes. The remaining one-third suggested a variety of improvements in their individual programs. The major suggestions made are summarized in the following paragraphs.

Practical nursing graduates expressed the need for more content and experience in "administration of medications," and "obstetrics". The first suggestion regarding the administration of medications is a result of the changing role of practical nursing. While at one time this function was not common to this field, it is very much a part of the practical nurse's daily responsibility today. Some practical nursing programs may have not yet put the emphasis on this curricular area that graduates feel necessary.

Recommendation:

Practical nurse faculties should evaluate their curriculum to determine if sufficient emphasis is being placed on the administration of medications to adequately prepare their graduates to function in this area in the employment situation.

The second area expressed by practical nurse graduates, and in addition associate degree nurse graduates, was the "obstetrics area". Obstetrics has become an increasingly difficulty area in which to schedule clinical experiences. Declining birth rates have reduced the availability of maternity patients which may make necessary the use of evening and night shifts for gaining adequate clinical experience in this area.

Some of the smaller programs may find it necessary to send students to large city hospitals for adequate OB experience.

Medical office assistants and medical laboratory assistant graduates both expressed a need for improvement in the "laboratory techniques" area. A sizeable group of the medical laboratory graduates also expressed a need for more content in "bacteriology". Dental assistant graduates also expressed the need for improvement in "laboratory techniques" as well as in X-ray procedures.

Faculty members are urged to study carefully the suggestions made by graduates in their particular type of program. Although only about one-third expressed the need for improvement, their attitudes in this respect are valuable guides to possible weaknesses in curriculum content and design.

Part Two

PRACTICAL NURSING

More than 85% of all graduates surveyed were practical nurses. This field has grown very rapidly and has become an important and viable part of patient care in our state. Because of this growth, the number of practical nurse programs in the state has also increased rapidly.

Concern has been expressed by some groups and individuals as to whether or not too many practical nurses are being prepared in the state. Data from this follow-up study were assembled in a paper which addressed itself to this concern. The paper is included on the following pages for the reader's information.

REGARDING THE POSSIBILITY OF AN OVER-PRODUCTION OF PRACTICAL NURSES IN IOWA

Compiled by Dale F. Petersen

Recent concern has been expressed regarding the possibility of over-production of practical nurses in Iowa. In practical nursing, as in most employment fields, actual manpower needs are extremely difficult to determine with any degree of accuracy. Due to many factors, job vacancy surveys are quite often not only inaccurate, but generally outdated by the time they are compiled. Therefore, it is also extremely difficult to determine actual over-production of personnel for specific employment categories on the basis of job vacancy data.

After careful consideration and much discussion, the professional staff of the Program in Health Occupations Education has determined that the best single indicator of over-production of practical nurses would be a significant reduction in the placement of graduates in employment situations. Placement data is readily available since the State Department of Public Instruction routinely submits to the U.S. Office of Education an annual follow-up of the graduates of all vocational-technical education programs. Traditionally, data compiled through this annual follow-up have shown that about 95% of the graduates of practical nurse programs are employed as LPN's almost immediately upon graduation each year. There appears to be no major variance in this placement rate up through 1969.

Data from a longitudinal follow-up of all H.O.E. graduates from 1956 through 1969, conducted recently by the Program in Health Occupations Education, University of Iowa, supports the above statement.

The findings of this questionnaire study are based on approximately a two-thirds return. A telephone survey of a sample of the non-respondents revealed no major characteristics in the non-respondent group which would preclude the generalization of the findings to the total population of graduates of Iowa's PN programs.

This study revealed that:

1. Ninety-seven percent of Iowa's PN graduates have been employed as LPN's. Only one percent have not been employed since graduation.
2. Eighty-five percent obtained their initial employment within one month after graduation; another 13% within six months. The one month figure has declined slightly since 1966, but the six month figure has remained almost constant, at about 97-98%.
3. Of all practical nurses graduated since 1956, 77% are currently employed. Of this currently employed group, 96.5% are employed as LPN's, 2.5% in related health occupations and only 1% in non-health occupations.
4. Eighty-seven percent of the state's PN graduates are currently living in Iowa. By year of graduation, the proportion of graduates remaining in Iowa has increased from 80% in 1965 to 91% in 1969.

These figures would seem to indicate that practical nurse graduates have not encountered any major difficulty in obtaining employment as LPN's in this state through 1969. Because concern for potential over-production of practical nurses had been expressed, and data from the follow-up study included graduates only through 1969, a telephone survey of the

22 public practical nursing programs (there is also one private program) was conducted to determine the placement status of their 1970 graduates. In each case, the coordinator of the program was contacted by telephone and asked three questions: (1) How many students did your program graduate in 1970?; (2) How many of those graduates are not currently employed as practical nurses?; and (3) Of those not employed, how many are actively seeking employment? The survey revealed the following:

1. Excluding the Des Moines and Carroll programs, for which figures were not immediately available, there were 751 persons graduated from Iowa's PN programs in 1970.

2. As of April, 1971, or about seven months after the graduation date of the majority of the 751 persons, 696 or 92.7% of them were employed as practical nurses. Only 55 or 7.3% were not then employed.

3. Of the 55 who were not employed, only 16, which represents 2.1% of the graduates were actively seeking employment.

It must be pointed out at this point, on the basis of comments by the various coordinators, that many of those looking for employment have certain conditions which they consider essential prerequisites to satisfactory employment. Among these conditions are: (1) no weekend hours; (2) no evening or night shift work; and (3) other similar conditions which may make employment acceptable to them.

In addition, among those who are not employed, and not actively looking, are several in the midst of wedding plans, several who are not

interested in immediate employment and several others who for similar reasons were delaying the employment-seeking process.

The results of this survey would indicate, that even through 1970, the graduates of Iowa's practical nurse programs have not experienced difficulty in securing employment. Based on the results of these two follow-up activities, it would appear that the concern expressed recently that too many practical nurses are being prepared in Iowa is, at this time, premature and with no sound supporting evidence.

From another point of view, however, these figures indicate an extremely stable group with little turnover, low incidence of leaving the state, and long tenure. Together with the increased enrollments in PN programs in recent years, these three factors could potentially lead to a reduced job market for PN graduates. This, in itself, however, is misleading because it does not take into consideration the expansion of health care facilities, extension of services to new segments of the population and other growth factors. The recent and current growth in the number of nursing homes serves as a good example. To date, 74% of Iowa's PN graduates obtained their first employment in general hospitals; another 5% in specialized hospitals and medical facilities. Only 16% obtained their first employment in nursing homes and other kinds of extended care facilities. The rapid expansion of these health care units could provide an existing source of employment situations to which LPN's have not yet been attracted.

It remains that the most valid indicator of over-supply is a reduction in the placement rate. In the event there is a significant

reduction in the number of graduates obtaining jobs as LPN's, it would be incumbent upon each program, as well as the Program in Health Occupations Education, to re-evaluate the numbers of practical nurses being prepared annually and attempt to balance output with need.

LIST OF REFERENCES

1. U. S. Department of Health, Education and Welfare, Public Health Service, Health Manpower Source Book, Section 21, Allied Health Manpower, 1950-80. (Washington, D.C.: U. S. Government Printing Office, PHS Publication No. 263, 1970).

2. U. S. Department of Health, Education and Welfare, Public Health Service, Health Resources Statistics (Washington, D.C.: U. S. Government Printing Office, PHS Publication No. 1509, 1969).

3. Harry I. Greenfield and Carol A. Brown, Allied Health Manpower: Trends and Prospects (New York: Columbia University Press, 1969).

4. Helen K. Powers, "Some Facts About Vocational Education," paper published in National Conference for Health Occupations Education (Champaign, Illinois: University of Illinois, June 1970).

5. J. Chester Swanson, Development of Federal Legislation for Vocational Education (Chicago: American Technical Society, 1962).

6. Fred N. Kerlinger, Foundations of Behavioral Research, (New York: Holt, Rinehart and Winston, 1966).

A P P E N D I X A

1. Description of Iowa HOE Programs

2. Location of Programs by Institution

3. Names and Addresses of Institutions

BRIEF DESCRIPTION OF EACH TYPE OF VOCATIONAL-TECHNICAL HEALTH OCCUPATIONS EDUCATION PROGRAM PRESENTLY OFFERED IN IOWA

1. Associate Degree Nurse (Associate Degree in Applied Science)

   This two-year program prepares students to carry out nursing care measures and medically delegated techniques, using principles derived from the social, physical, and biological sciences. Classroom instruction is closely correlated and concurrent with selected learning experiences in hospitals and other health-care areas.

   After successfully completing an approved program, upon passing a State Board Examination the graduate becomes a Registered Nurse (R.N.).

2. Dental Assistant

   This one-year program offers classroom and laboratory activities correlated with clinical practice. The graduate is prepared to assist the dentist at the chair, perform secretarial duties and do those laboratory procedures which are done in the dental office.

   Certification (C.D.A.) is granted following graduation from an approved educational program, passing qualifying examinations and completing a specified amount of work experience.

3. Dental Laboratory Technician (Associate Degree in Applied Science)

   Graduates of this two-year program are skilled craftsmen who make dentures crowns, bridges, and other dental and orthodontal appliances according to prescriptions provided by dentists. This member of the dental health team develops a high degree of skill in his chosen occupation through theoretical and laboratory studies which are well correlated throughout the program. Career opportunities are available in dental laboratories, individual dentist's office and in some hospitals.

   Certification (C.D.T.) is gained through graduation from an approved program, passing an examination and completing a specified amount of satisfactory work experience.

4. Environmental Health Assistant

   Following completion of this one-year program, the environmental health assistant is prepared to work with sanitary engineers, sanitarians and other public health officials in safeguarding the health and welfare of both urban and rural communities by inspecting housing conditions, milk,

water, sewage disposal facilities, air, food, and other potential health hazards. The curriculum is composed of correlated classroom, laboratory and field experiences.

5. Medical Office Assistant

This one-year program prepares the student to be employed in a private physician's office, clinic, hospital, or research laboratory. Through correlated classroom, laboratory and clinical experiences, the student learns to prepare patients for examination, perform routine laboratory tests and assist in office and medical record keeping activities.

Upon completion of an approved program and satisfactory work experience, the graduate is eligible to take the certification examination.

6. Medical Laboratory Assistant

This one-year program is designed to prepare qualified men and women to work in a medical laboratory under the supervision of a medical technologist or pathologist and/or other qualified physician. They perform routine laboratory procedures and tasks in the areas of bacteriology, blood banking, chemistry, parasitology, serology, and urinalysis.

Upon completion of an approved program, the student is eligible to take the certification examination (C.L.A.).

7. Nurse Aide-Orderly

This four-week program is designed to prepare the worker to perform simple and routine nursing care procedures to assist the patient in meeting his basic physical needs. The program consists of formal classroom teaching correlated with supervised clinical experience.

8. Occupational Therapy Assistant

This one-year program of classroom studies, laboratory experiences and clinical practice, prepares workers to give assistance to Registered Occupational Therapists in rehabilitative and therapeutic activities. The assistant becomes proficient in guiding and encouraging the patient in activities involving a variety of manual and creative areas for the attainment of specific treatment goals.

9. Operating Room Technician

Through this one-year program of classroom study, laboratory activities and clinical experience, the student learns to function under the direct supervision of the professional nurse or surgeon in the operating room. The activities of the operating room technician include preparation of surgical environment and serving as a "scrub" or "circulating" assistant during surgical procedures.

10. Orthopaedic Assistant (Associate Degree in Applied Science)

This two-year program prepares graduates to work with the orthopaedic surgeon in the emergency room, cast room, operating room, and other hospital areas as well as in clinics and private offices. Through correlated classroom, laboratory and supervised clinical experiences, the assistant is trained to prepare and maintain surgical equipment, assist in surgery, apply plaster casts and set up traction and suspension equipment.

11. Practical Nurse

This one-year program of concurrent classroom, laboratory, and clinical experiences prepares persons for employment in hospitals, nursing homes, doctors' offices and a variety of other health care facilities. The practical nurse gives nursing care to patients in situations relatively free of complexity and, in a close working relationship, assists registered nurses in giving nursing care to patients in more complex situations.

Following successful completion of the program, graduates are eligible to write the licensure examination to become a Licensed Practical Nurse (L.P.N.).

Appendix A-2

LOCATION OF PREPARATORY VOCATIONAL-TECHNICAL HEALTH OCCUPATIONS EDUCATION PROGRAMS OFFERED IN IOWA

PROGRAMS	ADMIN. CENTER NUMBER	CALMAR I		MASON CITY II	ESTHERVILLE III	SHELDON IV	FORT DODGE V	MARSHALLTOWN VI	WATERLOO VII	BETTENDORF IX		CEDAR RAPIDS X	ANKENY XI				SIOUX CITY XII		COUNCIL BLUFFS XIII				CRESTON XIV	OTTUMWA XV		BURLINGTON XVI			
	AREA SCHOOL	Northeast Iowa Area One Vocational School	Dubuque	Northern Iowa Area Community College	Iowa Lakes Community College	Northwest Iowa Vocational School	Iowa Central Community College	Area VI Community College	Hawkeye Institute of Technology	Eastern Iowa Community College	Clinton	Kirkwood Community College	Des Moines Area Community College	Boone	Des Moines	Carroll	Western Iowa Tech	Cherokee	Iowa Western Community College	Harlan	Clarinda	Atlantic	Southwestern Community College	Iowa Tech	Centerville	Southeastern Iowa Community College	Mt. Pleasant	Keokuk		
Associate Degree Nurse		X		X			X			X		X							X					X				X	
Dental Assistant							X	X	X			X	X				X		X										
Dental Laboratory Technician												X																	
Environmental Health Assistant												X																	
Medical Assistant							X					X	X						X								X		
Medical Laboratory Assistant									X	X			X														X		
Nurse Aide-Orderly		X	X	X	X	X	X	X	X	X		X	X				X		X					X		X			
Occupational Therapy Assistant												X																	
Operating Room Technician										X			X						X										
Orthopedic Assistant												X																	
Practical Nurse		X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	X	X		X	X	X	X				
Long-Term Care Fac. Adm.													X																

NOTES: 1. Administrative Center of area schools in capital letters.
2. X indicates an existing program.

8/3/70

HEALTH OCCUPATIONS CURRICULA IN IOWA AREA COMMUNITY COLLEGES AND VOCATIONAL-TECHNICAL INSTITUTES

Occupation	Location of Program	Name of Administrative Agency	Coordinator's Name	Telephone
Dental Assistant	Ankeny (50021), 2006 Ankeny Blvd.	Des Moines Area Comm. College	Mrs. Sharon Moore	(515) 964-6691
	Cedar Rapids (52406), 6301 Bowling Street SW	Kirkwood Community College	Miss Vivian Kraus	(319) 398-5560
	Council Bluffs (51501), 225 Harmony	Iowa Western Community College	Mrs. Carol Lange	(712) 328-3631
	Fort Dodge (50501), 330 Avenue M	Iowa Central Community College	Mrs. Judy Sheets	(515) 576-7201
	Marshalltown (50158), 113 North First Ave.	Area VI Community College	Miss Betty Sovey	(515) 752-1707
	Sioux City (51105), 3075 Floyd Blvd.	Western Iowa Technical School	Mrs. Norma Kimbell	(712) 239-2622
	Waterloo (50701), 2800 Falls Avenue	Hawkeye Institute of Technology	Mrs. Kitti Hammer	(319) 234-7526
Medical Office Assistant	Ankeny (50021), 2006 Ankeny Blvd.	Des Moines Area Community Coll.	Mrs. Shirly Muenlenthaler	(515) 964-6691
	Cedar Rapids (52406), 6301 Bowling St. SW	Kirkwood Community College	Mrs. Mary Bard	(319) 398-5530
	Council Bluffs (51501), 225 Harmony	Iowa Western Community College	Mrs. Beverly McAtee	(712) 328-3821
	Fort Dodge (50501), 330 Avenue M	Iowa Central Community College	Mrs. Joan Natte	(515) 576-7201
	Mt. Pleasant (52642), 1200 East Washington	Southeastern Iowa Comm. College	Mrs. Marylee Dickson	(319) 385-8114
Medical Laboratory Ass't	Ankeny (50021), 2006 Ankeny Blvd.	Des Moines Area Comm. College	Mrs. Margaret Rowe	(515) 964-6691
	Davenport (52801), 627 West 2nd	Eastern Iowa Community College	Mr. Richard Heiman	(319) 326-0136
	Mt. Pleasant (52641), 1200 East Washington	Southeastern Iowa Comm. College	Mr. Howell Colbert	(319) 385-8114
	Waterloo (50701), 2800 Falls Avenue	Hawkeye Institute of Technology	Mrs. Joyce Tinson	(315) 234-7526
Operating Room Technician	Ankeny (50021), 2006 Ankeny Blvd.	Des Moines Area Comm. College	Miss Deloris Benning	(515) 964-6691
	Council Bluffs (51501), 225 Harmony	Iowa Western Community College	Mrs. Cecelia Cronk	(712) 328-3831
	Davenport (52801), 627 West 2nd	Eastern Iowa Community College	Mrs. Aurelia Willers	(319) 326-0136
Occupational Therapy Ass't	Cedar Rapids (52406), 6301 Bowling St. SW	Kirkwood Community College	Mr. Frank Lydic	(319) 398-5526
Orthopedic Assistant	Cedar Rapids (52406), 6301 Bowling St. SW	Kirkwood Community College	Mrs. Noel Bisney	(319) 398-5400

NOTE: Zip code in parentheses
Address change after October 1: Council Bluffs (51505) 2700 College Road

HEALTH OCCUPATIONS CURRICULA IN IOWA AREA COMMUNITY COLLEGES AND VOCATIONAL-TECHNICAL INSTITUTES (Cont.)

Occupation	Location of Program	Name of Administrative Agency	Coordinator's Name	Telephone
Environmental Health Ass't	Cedar Rapids (52406), 6301 Bowling St. SW	Kirkwood Community College	Mr. Harold Kort	(319) 398-5513
Dental Laboratory Technician	Cedar Rapids (52406), 6301 Bowling St. SW	Kirkwood Community College	Mr. Robert Doubet	(319) 398-5528
Long Term Care Administrator	Ankeny (50021), 2006 Ankeny Blvd.	Des Moines Area Comm. College		(515) 964-0651
Associate Degree Nursing	Calmar (52132), 142 Main Street	Area I Vocational-Technical Sch.	Mrs. Donna Story	(319) 562-3338
	Cedar Rapids (52406), 6301 Bowling St. SW	Kirkwood Community College	Mrs. Phyllis Drennan	(319) 398-5400
	Clinton (52732) 1000 Lincoln Blvd.	Eastern Iowa Community College	Mrs. Marjorie Bottoms	(319) 242-6641
	Council Bluffs (51501), 225 Harmony	Iowa Western Community College	*Mrs. Irma Gibson	(712) 328-3831
	Fort Dodge, (50501), 330 Avenue M	Iowa Central Community College	Mrs. Kathryn Hyllengren	(515) 576-7201
	Keokuk (52632), 627 Main Street	Southeastern Iowa Comm. College	Mrs. Barbara Georges	(319) 524-3337
	Mason City (50401), 220 East State Street	North Iowa Area Comm. College	Miss Virginia Lawrence	(515) 423-1264
	Ottumwa (52501), Ottumwa Indus. Airport	Iowa Tech Area XV Community Coll.	Miss Ruby Holton	(515) 682-8081
Practical Nursing	*Atlantic (50022)	Iowa Western Community College		(712) 328-3831
	Boone (50036), 1125 Hancock Drive	Des Moines Area Comm. College	Mrs. Marine Betts	(515) 432-7203)
	Burlington (52601), Highway 34, West	Southeastern Iowa Comm. College	Mrs. Louise Elliott	(319) 752-6731
	Calmar (52132), 142 Main Street	Area I Vocational-Technical Sch.	Mrs. Donna Story	(319) 562-3338
	Carroll (51401), South Clark Street	Des Moines Area Comm. College	Mrs. Joan Schulte	(712) 792-3581
	Cedar Rapids (52406), 6301 Bowling St. SW	Kirkwood Community College	Mrs. Sue Collogan	(319) 398-5564
	Centerville (52544), 117 East Washington	Iowa Tech Area XV Comm. College	Mrs. Barbara Kruzich	(515) 856-8568
	Cherokee (51012), 101½ East Main	Western Iowa Technical School	Mrs. Genevieve Stratton	(712) 225-2414
	Clarinda (51632), 923 East Washington	Iowa Western Community College	Mrs. Roberta Kokenge	(712) 542-5117
	Clinton (52732), 1000 Lincoln Blvd.	Eastern Iowa Community College	Mrs. Carol Connell	(319) 243-3540

*will admit first class in 1971.

*acting

HEALTH OCCUPATIONS CURRICULA IN IOWA AREA COMMUNITY COLLEGES AND VOCATIONAL-TECHNICAL INSTITUTES (Cont.)

Occupation	Location of Program	Location of Administrative Agency	Coordinator's Name	Telephone
Practical Nursing (cont.)	Council Bluffs (51501), 225 Harmony	Iowa Western Comm. College	Mrs. Betty Marsh	(712) 328-3631
	Creston (50801), 1501 Townline Street	Southwestern Comm. College	Mrs. Jeanne Herzberg	(515) 782-7081
	Davenport (52801), 627 West 2nd Street	Eastern Iowa Comm. College	Mrs. Joyce Brandt	(319) 326-0130
	Des Moines (50314), 1440 Center Street	Des Moines Area Comm. College	Mrs. Jeanette Lowards	(515) 288-2320
	Dubuque (52001), 1500 Locust Street	Area I Vocational-Technical Sch.	Mrs. Vivian Shubert	(319) 557-2928
	Emmetsburg (50536), Iowa Lakes Comm. College	Iowa Lakes Community College	Mrs. Lynn Dole	(712) 852-3554
	Fort Dodge (50501), 330 Avenue M	Iowa Central Comm. College	Mrs. Dorothy Kusske	(515) 576-7201
	Harlan (51537), 1018½ Sixth Street	Iowa Western Community College	Mrs. Freda Samuelson	(712) 755-5219
	Marshalltown (50158), MACH-WEST	Area VI Community College	Mrs. Beverly Nelson	(515) 753-6661
	Mason City (50401), 220 East State Street	North Iowa Area Comm. College	Mrs. Leona Heagel	(515) 423-1264
	Ottumwa (52501), Ottumwa Indus. Airport	Iowa Tech Area XV Comm. College	Miss Ruby Holton	(515) 682-8031
	Sioux City (51101), 3075 Floyd Blvd.	Western Iowa Technical School	Mrs. Julia Jacobson	(712) 239-2622
	Waterloo (50701), 2800 Falls Avenue	Hawkeye Institute of Technology	Mrs. Arlene Larson	(319) 234-5528
Nurse Aide-Orderly	Multiple locations within area	Area I Vocational-Technical Sch.	Mr. Gene Gardner	(319) 552-3227
	" " " "	North Iowa Area Comm. College	Mr. Don Ryerkerk	(515) 423-1264
	" " " "	Iowa Lakes Community College	Mr. Robert VanDriel	(712) 363-2200
	" " " "	Northwest Iowa Vocational Sch.	Mr. C. E. Martin	(712) 324-2557
	" " " "	Iowa Central Community College	Mr. Larry Warford	(515) 576-7201
	" " " "	Area VI Community College	Mr. Don McQuire	(515) 752-4643
	" " " "	Hawkeye Institute of Technology	Mrs. Gwen Hickey	(515) 234-5528
	" " " "	Eastern Iowa Community College	Mrs. Phyllis Panzer	(319) 326-0136
	" " " "	Kirkwood Community College	Mr. Frank Mulhern	(319) 398-5521

HEALTH OCCUPATIONS CURRICULA IN IOWA AREA COMMUNITY COLLEGES AND VOCATIONAL-TECHNICAL INSTITUTES (Cont.)

Occupation	Location of Program	Name of Administrative Agency	Coordinator's Name	Telephone
Nurse Aide-Orderly (Cont.)	Multiple locations within area	Des Moines Area Comm. College	Dr. Robert Eicher	(515) 964-0631
	" " " "	Western Iowa Community College	Mrs. Julia Jacobson	(712) 239-2622
	" " " "	Iowa Western Community College	Mr. Jack Gell	(712) 328-3331
	" " " "	Southwestern Community College	Mr. Leonard Kuhre	(515) 782-7081
	" " " "	Iowa Tech Area XV Comm. College	Miss Ruby Holton	(515) 652-4081
	" " " "	Southeastern Iowa Area Comm. Coll.	Mr. Lowell Hewitt	(319) 752-2731
Heads of Health Occupations Programs	Cedar Rapids (52406), 6301 Bowling St. SW	Kirkwood Community College	Frank Mulhern	(319) 398-5521
	Council Bluffs (51501), 225 Harmony	Iowa Western Comm. College	Mrs. Margaret Stanley	(712) 328-3831
	Davenport (52801), 627 West 2nd St	Eastern Iowa Community College	Mrs. Phyllis Panzer	(319) 326-0136
	Sioux City (51101), 3075 Floyd Blvd.	Western Iowa Tech	Mrs. Julia Jacobson	(712) 239-2622
	Waterloo, (50701), 2800 Falls Ave.	Hawkeye Institute of Technology	Mr. John Holmes	(319) 234-7528

A P P E N D I X B

1. Graduate Address Form

2. Questionnaire

3. Data Card Formats

   a. Address card format

   b. Data card formats, 1 & 2

7/1/69

HEALTH OCCUPATIONS EDUCATION FOLLOW-UP

PROGRAM_____ SCHOOL_____ CLASS GRADUATED_____
Month Year

Form Completed by_____ Date_____

NAME	STREET ADDRESS	CITY	STATE	ZIP	PHONE

IOWA HEALTH OCCUPATIONS EDUCATION
FOLLOW-UP STUDY

Program in Health Occupations Education
The University of Iowa

Name:_____

Street:_____

City:_____State:_____

Telephone:_____Zip Code:_____

Please check your name and address on the label carefully and make all necessary corrections in the space above.

Dear Graduate:

We understand that you are a graduate of an Iowa health occupations education program. To date, more than three thousand (3,000) people have graduated from forty-seven (47) health occupations education (HOE) programs in Iowa. The University of Iowa has undertaken a project designed to determine what the graduates--people like yourself--have done since graduation. The purpose of this study is to provide information that will help evaluate existing HOE programs and aid in planning new and expanding programs.

To meet this goal, we would like to ask you, a graduate... Where are you now? Are you working? Have you completed additional education? How do you feel about the HOE program you graduated from? And more....

If we had our way, we would ask you these questions in person. However, we've had to limit ourselves to the answers we can get from a quick-check questionnaire just about one coffee break long. We hope you will take a few minutes to fill out the questionnaire just as soon as you finish reading this letter. The information you provide us will be of great value to schools, educational planners and future health occupations students. We have provided a postage paid, self-addressed envelope so that you can put the questionnaire in the mail as soon as you complete it.

You may have some answers or suggestions that we didn't think of questions for; if so, write us a note on the extra sheet we have provided. We'll welcome any off-the-cuff comments regarding your education or experience in the health occupations.

The information you provide us will be strictly confidential. You will not be identified as an individual to anyone outside the study staff. Materials provided for use by schools in evaluation will be reported by groups of graduates, not individually.

Sincerely,

Dale F. Petersen

Dale F. Petersen
Project Director

fw

I. PERSONAL

Date of birth____/____/____ Present age_____ Sex: M F

Present marital status: (check one)
1__Single 2__Married 3__Widowed 4__Separated or Divorced 5__Religious Order

Total number of children_____ Number of children under 6 years of age_____

II. EDUCATION

From what type of health occupations education (HOE) program did you graduate? (check one)

01___ Practical Nursing
02___ Associate Degree Nursing
03___ Operating Room Technician
04___ Medical Office Assistant
05___ Medical Laboratory Assistant
06___ Dental Assistant
07___ Dental Laboratory Assistant
08___ Orthopedic Technician
09___ Environmental Technician
10___ Occupational Therapy Assistant

In what month and year did you graduate from this program?_____

In what city was this program?_____

Had you worked in a health occupation before you entered the HOE program? 1___Yes 2___No
If Yes, what type of work? (Check only the one in which you had the *most* experience)

1___ Nurse Aide
2___ Home health care worker
3___ Candy Striper
4___ Adult health volunteer worker
5___ Student nursing club
6___ Red Cross–first aide work
7___ Other (specify)_____

Have you had additional formal education since you graduated from the HOE program? 1___Yes 2___No
If Yes, was it 1___in the same health occupation, 2___another field (specify)_____

Since graduation from the HOE program, have you received another
1___Certificate 2___Diploma 3___Degree
If so, in what field?_____

Do you plan to pursue more formal education in the future? 1___Yes 2___No
If so, in what field?_____

Given the opportunity to apply your current education and experience toward admission, would you
1___enter, as a full-time student, another educational program to prepare for a new health occupation which requires more education.

2___enter, as a part-time student, another educational program to prepare for a new health occupation which requires more education.

3___continue in the occupation for which I am now prepared.

Where applicable, in what states are you licensed to practice?_____

III. EMPLOYMENT EXPERIENCE

1. First job after graduation from the HOE program.

My *first job* after graduation from the HOE program was
1___in the occupation for which the HOE program prepared me.
2___in a related health occupation (specify)_____
3___other (specify)_____

How long after you graduated from the HOE program did you begin this job?_____

This job was 1___full-time, 2___part-time; Number of Hours/Wk._____

What was your *beginning* monthly salary (before deductions) on your *first* job?

1___less than $240
2___$240 – $320
3___$320 – $400
4___$400 – $480
5___$480 – $560
6___$560 – $640

My first job was in a (check one)

1___General Hospital
2___Special hospital (specify)_____
3___Nursing Home
4___Public health agency
5___Private Duty
6___Other (specify)_____

If appropriate, what was the bed size or capacity, not including bassinets?

01___ 0-25 | 06___200-299
02___ 26-49 | 07___300-399
03___ 50-99 | 08___400-499
04___100-149 | 09___500 and over
05___150-199 | 10___Other (specify)_____

In what city or town did you obtain your first job after graduation?_____

My first job was

1___in the health agency where I received *most* of my clinical experience while in the HOE program.
2___in the same city where I received *most* of my clinical experience.
3___in another city _____ miles away from where I received *most* of my clinical experience. City:_____

How long did you work at your first job?_____

How satisfied were you with your first job?

1___extremely satisfied 2___quite satisfied 3___satisfied 4___dissatisfied 5___very dissatisfied

How many jobs have you held since graduation from the HOE program?_____

Have you worked out of Iowa since graduation from the HOE program? 1___Yes 2___No
If Yes, where (city & state):_____

Have you moved permanently from Iowa? 1___Yes 2___No
If Yes, to what state?_____

2. Present or last job held (COMPLETE THIS SECTION ONLY IF YOU HAVE HAD MORE THAN ONE JOB SINCE GRADUATION)

My present or last job held is/was

1___in the occupation for which the HOE program prepared me.
2___in a related health occupation (specify)_____
3___other (specify)_____

My present or last job is/was 1___full-time, 2___part-time; Number of Hours/Wk._____

What is/was your *most current* monthly salary (before deductions) on your present or last job?

1___less than $240 | 3___$320 – $400 | 5___$480 – $560
2___$240 – $320 | 4___$400 – $480 | 6___$560 – $640

My present or last job is/was in a (check one)

1___General hospital
2___Special hospital (specify)_____
3___Nursing home
4___Public health agency
5___Private duty
6___Other (specify)_____

If appropriate, what is the bed size or capacity, not including bassinets.

01___ 0-25 | 06___200-299
02___ 26-49 | 07___300-399
03___ 50-99 | 08___400-499
04___100-149 | 09___500 and over
05___150-199 | 10___Other (specify)_____

In what city or town is/was your current or last job?_____

My present or last job is/was (check one in *a* and one in *b*)

a. 1___where I received *most* of my clinical experience while in the HOE program I attended.
2___in the same city where I received *most* of my clinical experience.
3___in another city _____ miles away from where I received *most* of my clinical experience. City:_____

b. 1___in the same health agency as my first job after graduation.
2___in another institution or agency in the same city where I had my first job.
3___in another city _____ miles away from my first job. City:_____

How long did you work at your current or last job?_____

How satisfied are you with your present job?
1___extremely satisfied 2___quite satisfied 3___satisfied 4___dissatisfied 5___very dissatisfied

Since graduation, have you worked in an occupation not related to the health field for which the HOE program prepared you?
1___Yes 2___No
If Yes, what occupation(s)_____

Are you employed at the present? 1___Yes 2___No
If No, what is the *most descriptive* reason you are not employed?

01___Retirement	06___Job not available
02___Family responsibility (general)	07___Satisfactory hours not available
03___Illness	08___Job terminated
04___Pregnancy	09___Personal reasons
05___Young children in the home	10___Other (specify)_____

If you are unemployed, do you plan to return to work sometime in the future? 1___Yes 2___No
If Yes, in approximately how many months?_____

In what occupation do you plan to return?_____

IV. HEALTH OCCUPATIONS EDUCATION PROGRAM

Do you feel the program from which you graduated prepared you adequately for employment in the health occupation you were studying for? 1___Yes 2___No

Do you feel the program 1___contained too much theory (classroom content), 2___too little theory, 3___about the right amount of theory?

Do you feel the program 1___contained too much clinicel experience, 2___too little clinical experience, 3___about the right amount of clinical experience?

Have you been required by your employer to perform functions which *were not* included as a part of your educational program?
1___Yes 2___No
If Yes, what are some of these functions (use extra space if necessary)
1._____
2._____
3._____
4._____

What part or parts of your program do you feel could have been improved? (Basic Nursing, OB, Adm. of Meds., Office techniques, laboratory techniques, etc.)	How do you feel the part or parts could have been improved? (check where appropriate)				
	More time	More theory	More clinical practice	Better Equip.	Better Instruction
1. _____	____	____	_____	____	_____
2. _____	____	____	_____	____	_____
3. _____	____	____	_____	____	_____
4. _____	____	____	_____	____	_____

In general, how do you feel about the HOE program from which you graduated?
1___extremely satisfied 2___quite satisfied 3___satisfied 4___dissatisfied 5___very dissatisfied

Do you feel completing the program has helped provide you economic security? 1___Yes 2___No

Do you feel the program, or employment as a health worker, has provided you with a personal satisfaction that you would not have experienced had you not taken the program? 1___Yes 2___No

In the near future, we plan to do a study of employers of health occupations graduates. You can help us by providing the name and address of your employer. You need not feel obligated to do this, but we would appreciate your help.

Employer_____

Street_____

City & State_____

IOWA H.O.E. FOLLOW-UP

Coding Format 1

Graduates' Address Cards

Column Number	Item	Code
1-23	Name - First, middle initial, last	
24-46	Street Address	
47-67	City and State	
68-72	Zip Code	
73-74	School Number	1
75-76	Program Type	2
77-79	Graduate Number	Chronological
80	Deck Number 1	

IOWA HOE FOLLOW-UP STUDY

Coding Format 2

QUESTIONNAIRE RESPONSES

Card 1:

Column	Item	Code
1-3	Individual I.D. number	
4,5	School	1
6,7	Program type	2
8-11	Month and year of graduation	
12,13	Present age	
14	Sex	M=1,F=2
15	Marital status	3
16	Total number of children	4
17	Number of children under 6 years	4
18,19	Type of experience	6
20,21	Additional education since graduation - field	7
22	Certificate, Diploma, Degree since graduation	8
23,24	What field?	7
25,26	Pursue more formal education - field	7
27	Opportunity for advanced study	9
28	Number of states licensed	4
29	Relevance of first job	10
30,31	Title of first job (if related or other)	11
32,33	Begin job after graduation	# months
34	Full-time - Part-time	1 FT
		2 PT
35,36	Number hours/week (if part-time)	Avg. range
37	Beginning salary - first job	12
38,39	First job - type of institution	13
40,41	First job - bed size	14
42	Distance - first job from clinical agency	15
43-45	First job - length of tenure	# months
46	First job - level of satisfaction	16
47	Number of jobs since graduation	4
48,49	Worked out-of-state	# states
50,51	State moved to	17
52	Relevance of last or most current job	10
53,54	Title of last or most current job(related;other)	11
55	Present or last job full-time - part-time	1 FT
		2 PT
56,57	Number of hours/week (if part-time)	Avg range
58	Most current salary	12
59,60	Last or most current job - type of institution	13
61,62	Last or most current job - bed size	14
63	Last or most current job - distance from primary clinical agency	15

64	Last or most current job - distance from first job		15
65-67	Last or most current job - length of tenure		# months
68	Last or most current job - level of satisfaction		16
69-70	Non-health related work since graduation		11
71	Currently employed?		5
72,73	Reason for unemployment		18
74,75	Plan to return to work?	# months	11
		97 not sure	
		98 soon as possible	
		99 no, or already working	
76,77	Return in what occupation?		11
78	Blank		
79	Card number = 1		
80	Deck number = 2		

IOWA HOE FOLLOW-UP STUDY

Coding Format 2

Card 2:

Column	Item	Code
1-3	Individual I.D. number	
4,5	School number	1
6,7	Program type	2
8-11	Month and year of graduation	
12	Program prepared adequately	5
13	Amount of theory	19
14	Amount of clinical experience	19
15	Perform additional functions	5
16, 17	Additional function 1	20
18,19	Additional function 2	20
20,21	Additional function 3	20
22,23	Additional function 4	20
24,25	Area of program that could be improved 1	21
26,27	How it could be improved	22
28,29	Area of program that could be improved 2	21
30,31	How it could be improved	22
32,33	Area of program that could be improved 3	21
34,35	How it could be improved	22
36,37	Area of program that could be improved 4	21
38,39	How it could be improved	22
40	Level of satisfaction with program	16
41	Provided economic security	5
42	Provided personal satisfaction	5
43	Writtem comment	5
44-78	Blank	
79	Card number = 2	
80	Deck number = 2	